American FRUIT GROWER

JANUARY 1948

FRUIT CENTENNIAL
AMERICAN POMOLOGICAL SOCIETY
1848-1948

JOHNNY APPLESEED
LEGENDARY FRUIT GROWER
See page 32

HARRY SCHOGER, Plainfield, Illinois
Men's Class Winner in National plowing matches at Big Rock, Illinois, and Wheatland, Illinois

ROBERT ERICKSON
Championship Class Winner in National plowing matches, Big Rock, Illinois, and Wheatland, Illinois

Firestone

CHAMPION GROUND GRIPS CHOICE of CHAMPIONS

IN ALL THREE 1947 NATIONAL PLOWING MATCHES

GENE FERGUSON, Oskaloosa, Iowa
Open Class Contour Winner, Webster City, Iowa

CHAMPION Plowmen know that the performance of their tractor tires can "make" or "break" them in a plowing match. They must have tires that take hold and pull — on soft ground — on hard ground — on sod — on stubble. They must have tires that take a full, clean bite, a center bite — tires that plow right through under all conditions.

That's why winners in the three big national matches this fall (Big Rock, Wheatland, Illinois and Webster City, Iowa), plowed on Firestone Tires. They, like most other contestants in these big events, could not afford to gamble with a "broken center" tire that might let them down by clogging up with trash, slipping and spinning.

Firestone Champion Ground Grips will perform for you on every job just like they perform for champion plowmen. They will always take you through. And they will take you through faster, without slipping. That means time and money saved.

Specify Firestone Champions when you order a new tractor or when you buy replacements for your present tractor. See your nearest Firestone Dealer or Store today.

Listen to the Voice of Firestone every Monday evening over NBC

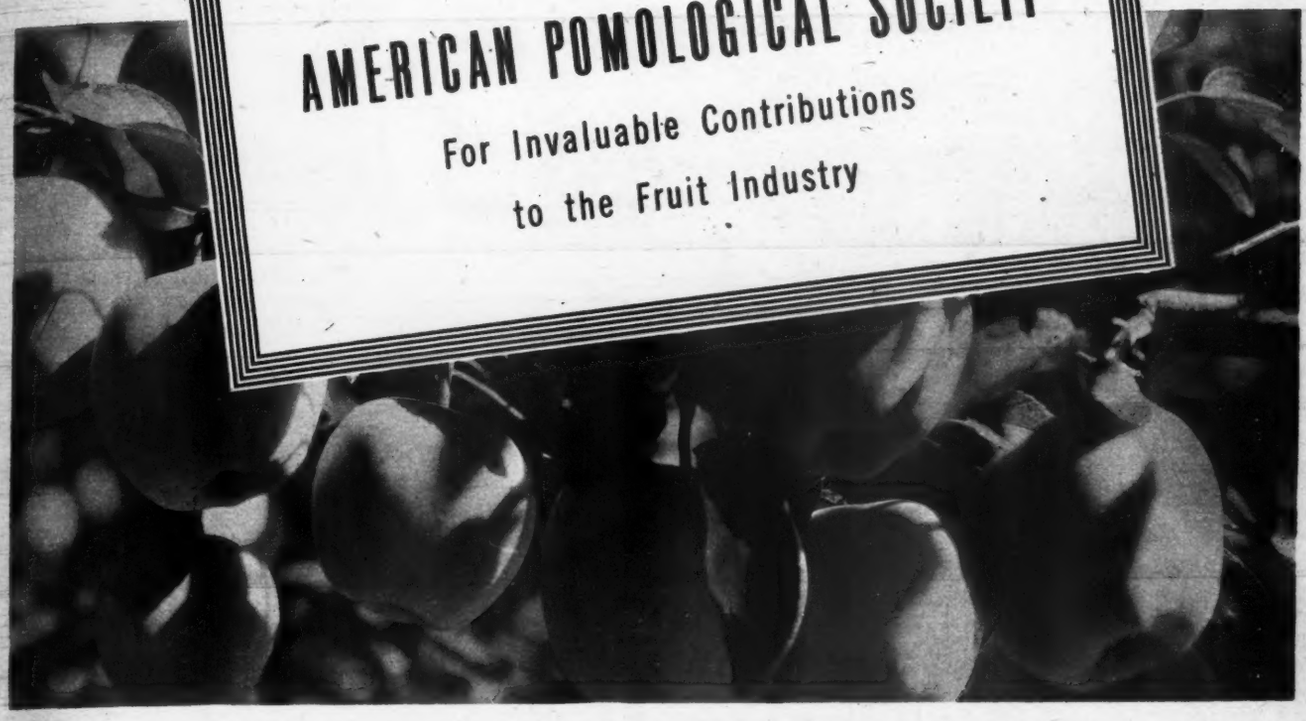
Only FIRESTONE CHAMPION Ground Grips Take a "CENTER BITE"

Entered as second class matter at Post Office at Cleveland, Ohio, under the Act of March 3, 1879. Additional entry at Mount Morris, Ill.

1848 1948

A Salute to the AMERICAN POMOLOGICAL SOCIETY

For Invaluable Contributions to the Fruit Industry



This month all who are engaged in horticulture pay tribute to the American Pomological Society on its 100th Anniversary. Since 1848, the Society has been a force ever striving toward improvement in varieties and culture . . . helping to make fruit production a well-developed science.

Indeed, the humble work of Johnny Appleseed to make a wilderness fruitful has been brought to high fulfillment in present-day orchards. Better fruits . . . finer trees . . . superior protection of fruit quality—all are America's rich heritage because of the determination of men of vision.

Now as associations, societies and individuals all unite in recognition of the Society's contributions to the fruit industry, the General Chemical organization across the country joins in these sincere congratulations.

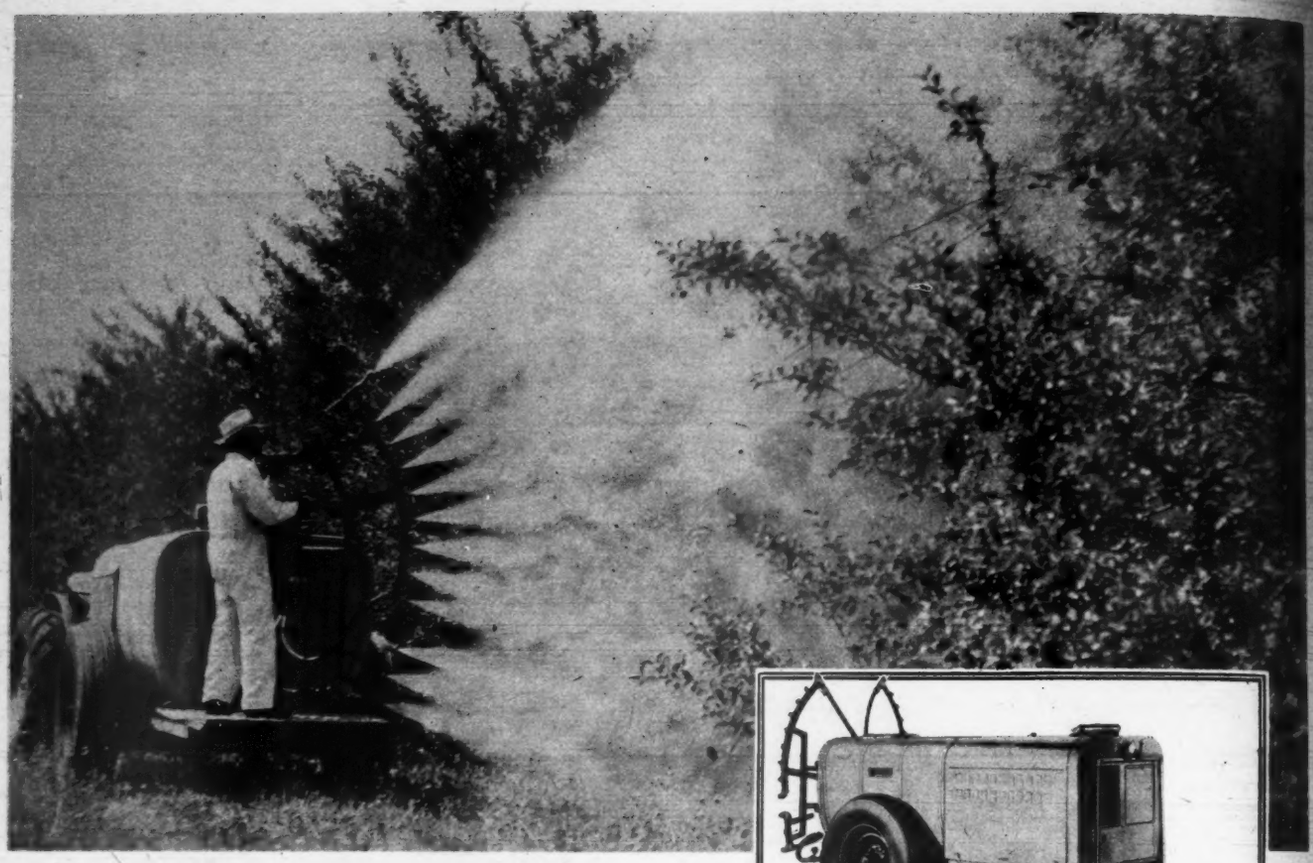
No one has traveled the whole road marked by this Centennial. Yet some of the men in General Chemical as well as the company itself have, by close association with fruit growers, watched the Society's work flourish even back in the last century.

All taking part in the fruit industry recognize that the past accomplishments of the American Pomological Society are but a prelude to the future. Just as the Society plans for tomorrow's services to fruit growers, so too does General Chemical. Through creative research and constant product development, General Chemical will provide better insect control materials for those who grow fruit as a business.

GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.
Offices Serving Principal Growing Centers

ORCHARD BRAND SPRAYS & DUSTS

ORGANIC AND INORGANIC INSECTICIDES & FUNGICIDES
and Other Chemicals for the Fruit Grower



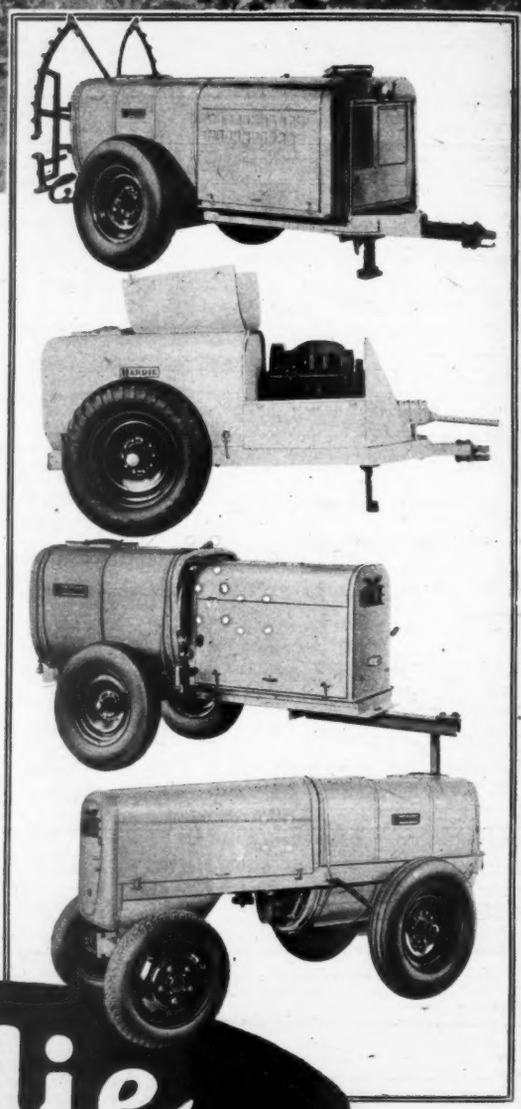
One Man does the work of ten!

The Hardie Sprayrite Orchard Boom can be attached to any high pressure sprayer of adequate capacity. It converts the conventional sprayer into a spraying machine with which one man can spray as many trees, or acres, in a day as ten or more men with hand guns. There is no sacrifice of material or coverage. The entire boom or sections of it can be adjusted as to angle and direction, horizontal and vertical, while in use and readily removed when it is desired to use the sprayer with hand guns. Modernize your old sprayer. Get the facts about this amazing Hardie Sprayrite Orchard Boom. Advanced Hardie Sprayers in many different models and sizes are bringing new ease, speed and efficiency to all spraying operations. The new 1948 Hardie catalog is ready. Write for your copy.

The Hardie Mfg. Company

Hudson, Mich. Los Angeles 11, Calif. Portland 9, Oregon
Export Dept. Detroit 26

Canadian Office: Clarence W. Lewis & Son Ltd., Grimsby, Ont.



Hardie
Dependable Sprayers

PERFECT AGITATION · COMPLETE LUBRICATION

Control orchard pests

EFFECTIVELY··· ECONOMICALLY

with a PENCO* PROGRAM

A Penco Program means *more effective control* of pests—because all Penco products are thoroughly tested in Pennsalt's Whitemarsh Research Laboratories to meet specific field conditions. You know before you buy that Penco products will do the job and do it well.

And a Penco program means *economical control*, too. That's because Pennsalt is a leading producer of *basic chemicals* that go into Penco products. Pennsalt controls the manufacture of these Penco products right from "the ground up"—assuring you of top-quality products at lowest basic price. Plan on a Penco program this year! Consult your Penco representative for specific spraying advice.

For Codling Moth Control:

PENCO* WB-50
with 50% DDT

Superior DDT Spray for codling moth control. Extensively tested in *your* area to meet *your* needs. Micron-sized for better suspension and coverage. Assures minimum loss from run-off, because of superior spreaders and stickers.

KRYOCIDE*
Natural CRYOLITE

Pennsalt's famous Kryocide has been a leading codling moth insecticide for over 16 years. It will not sterilize soil, upset natural insect balance, nor harm tender foliage or fruit. Not acutely toxic to man or animals, nor irritating to skin of pickers and sprayers.

For Plum Curculio on Peaches:

PENCO* BHC
(Benzene Hexachloride)

Penco W-12 is an exceptional BHC product with its unusually high gamma isomer content of 12%. A wettable base especially effective for control of plum curculio and apple aphids (green, rosy, woolly). Conforms to Pennsalt's rigid standards of quality and uniformity.

*Reg. U. S. Pat. Off.

PENNSYLVANIA SALT MANUFACTURING COMPANY

Philadelphia 7, Pa.

PENN SALT
AGRICULTURAL CHEMICALS

Bryan, Texas Tacoma, Wash.

He gets peak prices for apples

...with the help of G-E Refrigeration Equipment

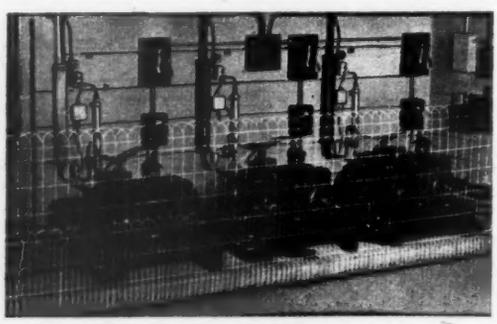
H. W. Lutz, manager of Sand Hill Fruit Farm of Carroll, Ohio, likes to get their produce to market when the price is best. Their General Electric refrigeration equipment helps them to do just that.

A simple, economical refrigerated storage system holds their apple crop in perfect condition for months. That is why they can wait for the best prices and still deliver the quality fruit for which they are famous.

For every cooling job

Thousands of farmers have found their General Electric dealer to be a big help in providing equipment for cooling milk and re-cooling or storing fruits, vegetables and meats. Today's G-E line is designed to give farmers the greatest amount of cooling for every dollar of power cost.

Your G-E dealer can help you solve your crop cooling and storage problems. Call him today. *General Electric Company, Air Conditioning Department, Section 8321, Bloomfield, New Jersey.*



Series of G-E Condensing Units operating Sand Hill Fruit Farm apple cooling system

GENERAL ELECTRIC

Refrigeration Equipment

NEW-and for YOU!

SILVER CLOUD SPRAYERS

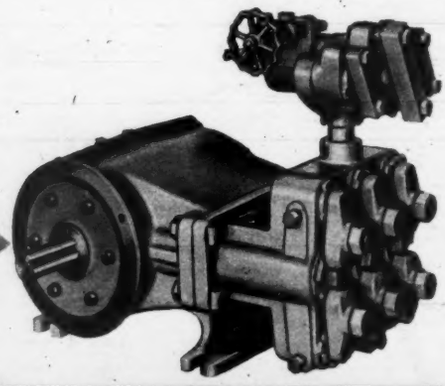
— a newly designed, full-range line for every size of operation

Pressures up to 800 pounds
Capacities up to 50 gpm

NEW TRACTOR DRAWN ENGINE POWERED MODELS

The new, extensive Silver Cloud line is practically made-to-order for every spraying need. There's a full range of standardized power take-off and engine powered models, all outstanding in simplicity and compactness. All are equipped with powerful, efficient Myers Bulldozer Pumps. The new tractor drawn, engine powered models are carefully designed for balance and ease of mobility. Furnished with draw bar mounted on either end — on tank end for better traction; on engine end for more even distribution of weight. Before you buy any sprayer, see the many advanced features in these new Silver Clouds. Mail coupon for catalogs and dealer's name.

NEW 4-WHEEL ENGINE POWERED MODELS



NEW BULLDOZER PUMPS

NEW SKID TYPE ENGINE POWERED MODELS

TAKE OFF YOUR HAT TO MYERS
WATER SYSTEMS · PUMPS · SPRAYERS · HAY TOOLS

THE F. E. MYERS & BRO. CO., Dept. K-187, Ashland, Ohio
Send free literature on items checked below.

☐ Power Sprayers ☐ Power Pumps ☐ Water Systems
☐ Hand Sprayers ☐ Hand Pumps ☐ Hay Unloading Tools

NAME_____

STREET_____ TOWN_____

STATE_____ COUNTY_____ R.F.D.____

GOOD MANAGEMENT *and*...
GESAROL AK 50
The perfect team for greater PROFITS

MR. FRUIT GROWER: See your Geigy Dealer. Get **GESAROL*** **AK 50.** Supplement your own skill and knowledge with this tried-and-proven composition developed by the *"Originators of DDT Insecticides"*. Science offers no surer way to increase cash returns than through the effective control of many major insect pests.

Experience proves that **GESAROL AK 50** gives amazing results in the control of Codling Moth on apples and pears, and in the control of Oriental Fruit Moth on peaches.

The Geigy Company offers you a special Folder giving carefully developed recommendations for the proper application of **GESAROL AK 50** and other GESAROL DDT compositions on fruits, berries and nuts. This Folder is FREE on request. Supplementing this, it is also desirable to consult your county agent for local spray and dust schedules.

If you find **GESAROL AK 50** not available locally, simply send us the name and address of your dealer.

*Reg. U. S. Pat. Off.

GEIGY COMPANY, INC.
89 Barclay Street, New York 8, N.Y.

Geigy

ORIGINATORS OF
DDT
INSECTICIDES

JANUARY 1948
VOL. 68 No. 1

CONTENTS

THIS MONTH'S COVER

The fertile imagination and facile pen of Walt Disney produced Johnny Appleseed as shown on our front cover this month. To see how Johnny will look to millions of moviegoers, see pages 32 and 33.

Letters to the Editor 15
Tribute to Perseverance 17
Congratulations, APS 18
The Story of the Wilder Medal 19
By H. B. Tukey
From Marshall P. Wilder to Stanley Johnston 20
By Eldon S. Banta
America's Greatest Horticulturists 22
By E. G. K. Meister
The Old and the New in Fruit Growing 24
U. P. Hedrick—Fruits of Yesterday 26
Memories 28
By Liberty Hyde Bailey
U. S., The World's Fruit Basket 30
By Monroe McCown
Walt Disney's Johnny Appleseed 32
Program Centennial Meeting APS 40
Calendar of Coming Meetings and Exhibits 42
Editorial Page 70

AMERICAN FRUIT GROWER
Published Monthly by
AMERICAN FRUIT GROWER PUBLISHING CO.
1370 Ontario St., Cleveland 13, Ohio
E. G. K. MEISTER
Publisher
Editorial Staff
R. T. MEISTER T. N. FERRIS, JR.
ELDON BANTA K. A. HOLMAN
Advertising Manager
EDWARD L. MEISTER

BRANCH OFFICES AND REPRESENTATIVES
NEW YORK CITY, Billingsley & Fiore, 420 Lexington Ave., Room 506. Phone—Lexington 2-3667
CHICAGO, Peck and Billingsley, 185 No. Wabash Phone—Central 0465

SUBSCRIPTION RATES
Domestic Except Cleveland, 3 years $1.00, 1 year 50c. Single copy 10c. Canada, 3 years $1.00, 1 year 50c. Cleveland and foreign $1.00 per year.

Entered as second-class matter at Post Office at Cleveland, Ohio, under the Act of March 3, 1879. Additional entry at Mount Morris, Illinois

PRINTED IN U.S.A.

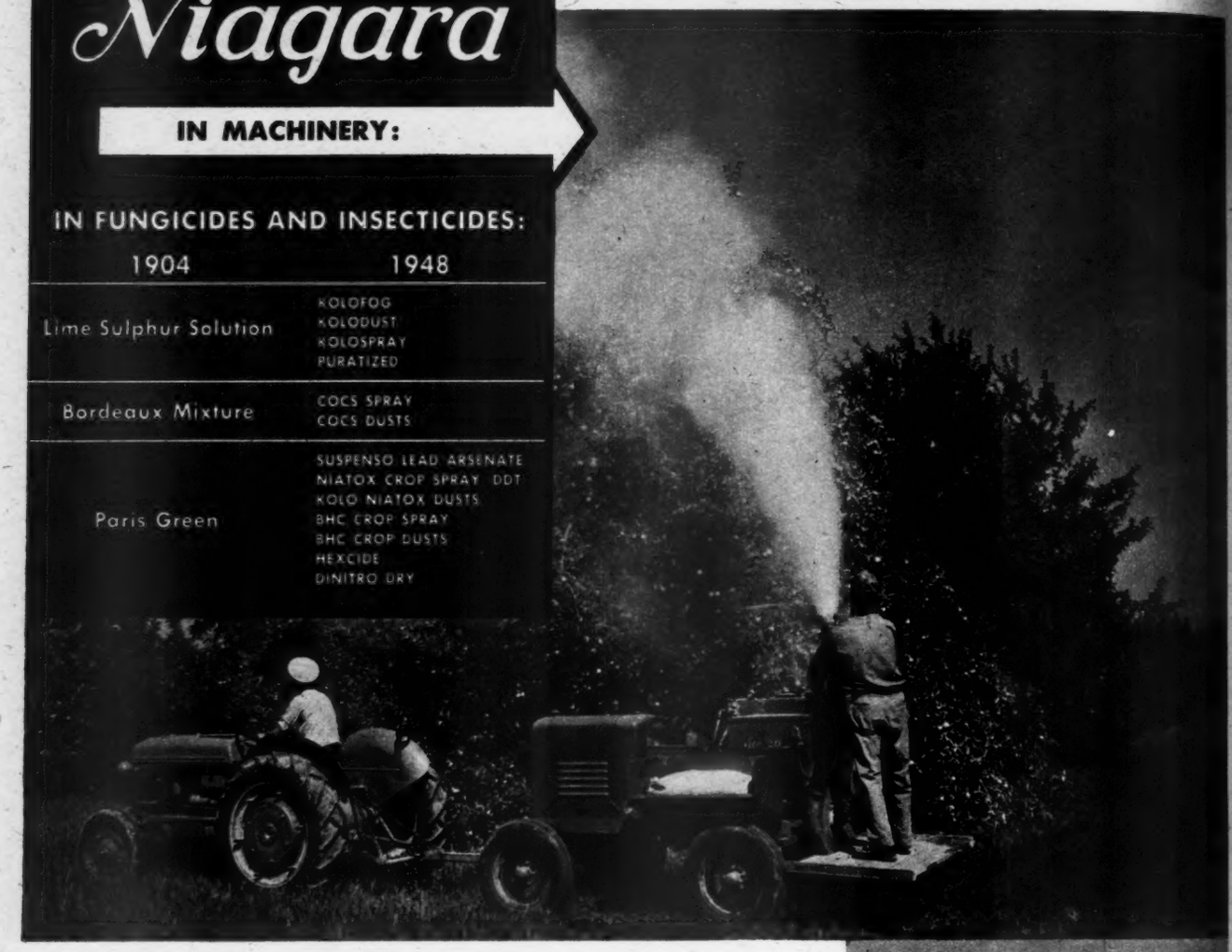
44 YEARS of PROGRESS with *Niagara*

1948 Niagara Cyclone Liqui-Duster

IN MACHINERY:

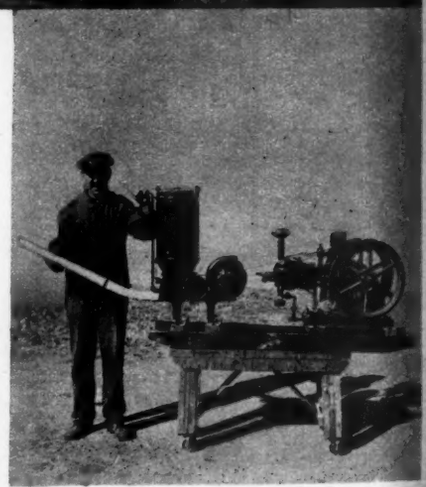
IN FUNGICIDES AND INSECTICIDES:

1904	1948
Lime Sulphur Solution	KOLOFOG KOLODUST KOLOSPRAY PURATIZED
Bordeaux Mixture	COCS SPRAY COCS DUSTS
Paris Green	SUSPENSO LEAD ARSENATE NIATOX CROP SPRAY DDT KOLO NIATOX DUSTS BHC CROP SPRAY BHC CROP DUSTS HEXCIDE DINITRO DRY



IN ASSURING SUCCESSFUL FRUIT PRODUCTION:

For 44 years, Niagara dusters have set the standard. For 44 years Niagara dusts and sprays have been the choice of progressive fruit growers. *"When you buy Niagara, you buy protection"*—and successful fruit production.



1916 Niagara Junior Duster

WHEN YOU BUY *Niagara* YOU BUY PROTECTION

NIAGARA CHEMICAL DIVISION
FOOD MACHINERY CORPORATION
MIDDLEPORT, NEW YORK

Richmond, California • Jacksonville, Florida • Pompano, Florida • New Orleans, Louisiana
Greenville, Mississippi • Harlingen, Texas

Canadian Associate: NIAGARA BRAND SPRAY CO., LTD., Burlington, Ontario

LETTERS TO THE EDITOR

Here's an old timer taken in front of the packing shed in the Crawford Orchard near Grand Junction, Colo., in 1896—Carl Jorgensen, Fort Collins, Colo.

There's nothing very modern about this old spray rig used in Wisconsin 40 years ago, but it illustrates mechanical progress in orchard methods—C. L. Kuehner, Madison, Wis.

This old-time method of tree transplanting was described in one housewife's cook book. It presents a good contrast to modern methods—Mrs. Florence H. Williams, Telford, Tenn.

In answer to our request for clippings and pictures about old methods of fruit growing, many readers sent in some interesting items. We are sorry we could not use all of them, but we have selected a few which seemed to be forerunners of present methods. These old ways may now be looked upon as ludicrous, but in Grandfather's day they were progressive.

To Destroy Borers in Fruit Trees

BY JAMES KERR, FAYETTEVILLE, ARK.

RECIPE:

Unslacked Lime	10 lbs.
Sulphur	1 lb.
Leaf Tobacco	1 lb.
Coal Oil	1 gal.

Put the Lime in three gallons of water, then put in the Sulphur and stir it up. Boil the Tobacco in one gallon of water until it is reduced to one-half gallon. Mix the three ingredients in a kettle and boil till it resembles thick paint, stirring it well. Let stand until cool, then add the Coal Oil as used.

DIRECTIONS.

Wet a piece of cloth, in the fluid, wrap it around the tree three or four feet from the roots, then paint the tree from the cloth to the ground. This will keep Borers out of the tree and kill those already in it. It will also keep rabbits from gnawing the tree. If Borers are very numerous put on twice first year; otherwise once in two years is often enough. Above quantity is sufficient for ten acres of trees. Larger orchards more in proportion.

CAUTION.

Above Recipe is patented and must be used only by purchaser on his own farm. Purchaser has no authority to sell or give the Recipe to anyone.

PRICE - - - - 1.00.

Back in 1892 this type of preparation was bought and used by Mr. Pete Zettler on his orchard near Fayetteville, Arkansas—Chas. H. Mitchell, Dixon, Ky.

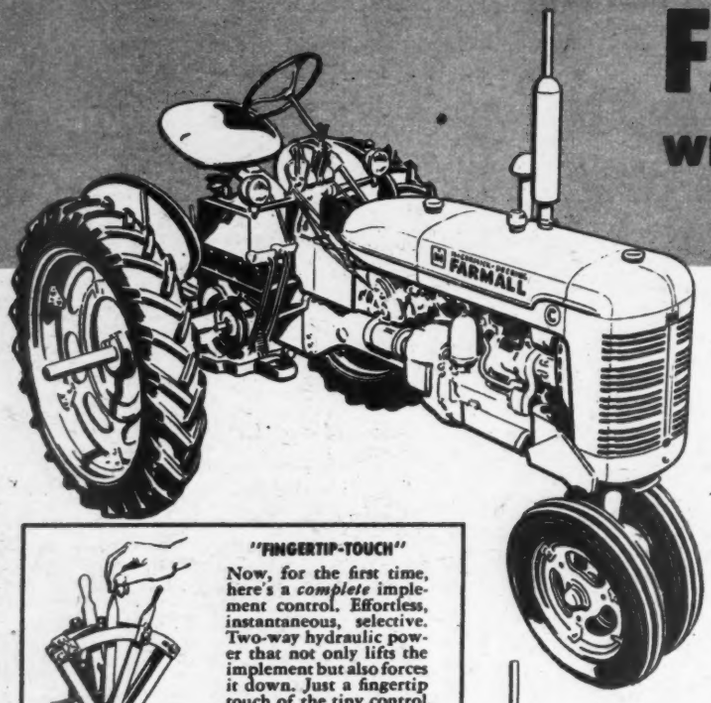
One of the earliest type sprayers, this 1871-model hand water-engine was called "an excellent device for sprinkling trees with soap-suds"—Ira Glackens, Center Conway, N. H.

This vehicle, with a battering-beam to jar curculios from the tree and an umbrella-like sheet to catch them, was recommended in 1870—Ira Glackens, Center Conway, N. H.

In 1947 we introduced the NEW small **FARMALL CUB**

Now, in 1948 Comes the New FARMALL C

WITH TOUCH-CONTROL



"FINGERTIP-TOUCH"

Now, for the first time, here's a *complete* implement control. Effortless, instantaneous, selective. Two-way hydraulic power that not only lifts the implement but also forces it down. Just a fingertip touch of the tiny control levers gives you *any* operating adjustments you want.

INTERNATIONAL HARVESTER leadership in all-purpose farm tractor development scores again!

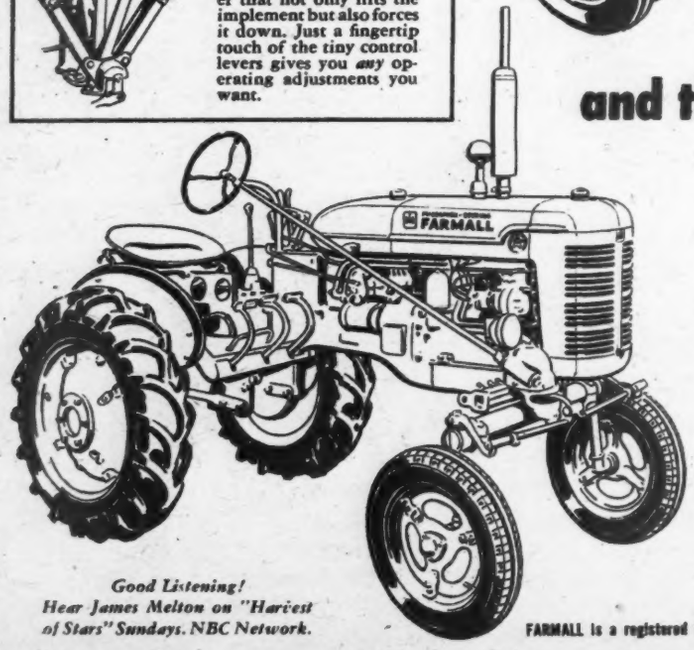
Here are two new members of the famous Farmall Family — FARMALL C and FARMALL Super-A, both equipped with Farmall TOUCH-CONTROL, the new two-way hydraulic control that's effortless and instantaneous.

The Farmall C is designed for diversified farms of approximately 120 crop acres; for larger vegetable farms; and for large farms that need an extra tractor.

There's balanced, smooth-flowing power in the Farmall C. And there's a full line of matched, direct-connected, hydraulically-controlled, quick-change implements especially designed for it.

and the FARMALL SUPER-A

WITH TOUCH-CONTROL



Introduction of the Farmall Super-A with Touch-Control brings a new, efficient farm-work unit to farms of up to 80 crop acres. It's also designed as a handy, all-purpose utility tractor for larger farms. "Combustion control" resulting from a newly designed cylinder head gives the Farmall Super-A amazing pep and efficiency.

The Farmall Super-A has a full line of matched implements — all of them new and revolutionary in design—all hydraulically controlled. They're *fitted* to the tractor, to do your work better, faster, easier.

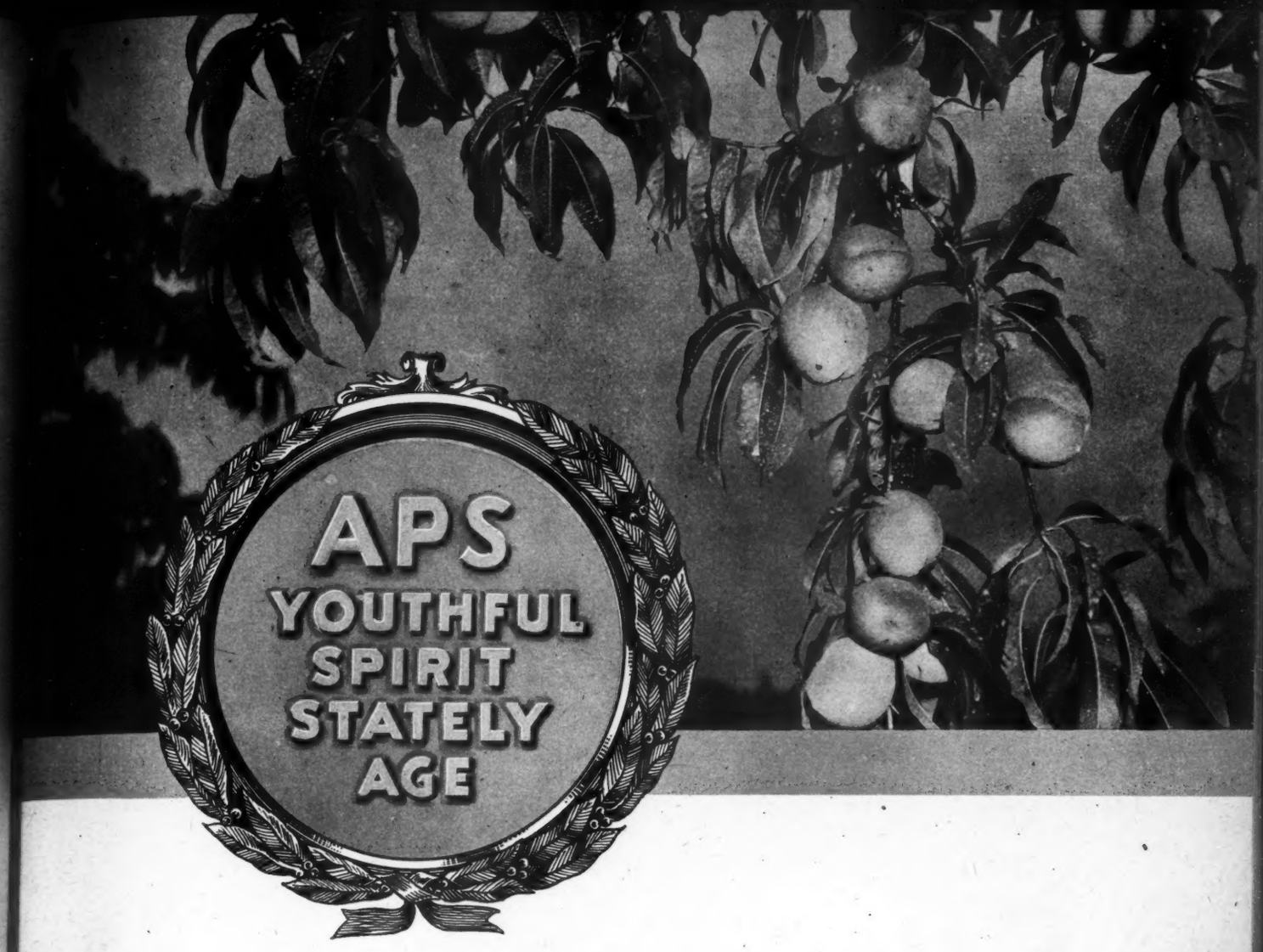
See the Farmall Super-A and the Farmall C, both with Touch-Control, at your IH Dealer.

Good Listening!
Hear James Melton on "Harvest of Stars" Sundays. NBC Network.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue Chicago 1, Illinois

FARMALL is a registered trade-mark. Only International Harvester builds Farmall Tractors

FARMALLS FIT EVERY FARMER'S NEED



A TRIBUTE TO PERSEVERANCE

IT IS NOT remarkable that the American Pomological Society has survived for a whole century. To live is a normal routine, but to grow and still remain youthful and vigorous is a characteristic rarely found.

The spark that keeps the association continually useful is not its articles of incorporation or lofty aims; it is, in short, the qualities and sacrifices of its leaders. Almost nowhere in American agriculture can be found a group of men with the ability to crystallize ideas into realities as Marshall Wilder, Brinckle, Berckmans, Charles Watrous, Hale, Goodman, Hutt, Liberty Hyde Bailey, Paul Stark, Rees, Blair, Pickett, Talbert, and Stanley Johnston. To these must go the thanks of an industry for maintaining A.P.S. through rough and smooth. Their perseverance and leadership has given the grower more bountiful harvests, greater economic security, and a heritage rich in future hopes.

Those who succeed to the goverment of the association in the future must beware of complacency and lassitude. The past accomplishments and ideals are the beacons to future successes.

CONGRATULATIONS, APS

Messages Received by AMERICAN FRUIT GROWER From Notable Leaders

From Robert A. Taft

United States Senator, Ohio

MEMBERS OF the APS can be justly proud of their achievements during the past century. Tremendous strides made in the improvement of fruit varieties, and in production, have contributed immeasurably to the good health of our nation. And now, when we are called upon to feed the world, I have little doubt that they will meet this great challenge.

From George D. Aiken

United States Senator, Vermont

I.N.S. Photo

CONGRATULATIONS on the occasion of the celebration of the 100th anniversary of the American Pomological Society. Being something of a horticulturist myself, I appreciate the tremendous strides forward that have been made in fruit production.

In dedicating this issue to 100 years of advancement in the field of pomology, the AMERICAN FRUIT GROWER is paying a fitting tribute.

From John Chandler

Secretary, National Apple Institute

THE APPLE INDUSTRY of the United States owes a great debt of gratitude to the foresight of the founders of the APS who created an organization which was to prove so unfailingly beneficial to the industry. Bringing order out of chaos in varieties and their nomenclature, and fostering the science of pomology and its practical application are only two of the many miracles wrought by the APS in one hundred years.

From Clinton P. Anderson

U. S. Secretary of Agriculture

I.N.S. Photo

TO ALL WHO appreciate the importance of fruit culture, this APS centennial is significant. It marks the birth of America's oldest national agricultural organization, and demonstrates an alertness and progressiveness that has met the test of time.

The spontaneous way in which this great society was formed 100 years ago is reflected in the satisfaction with its aims and programs expressed by practical growers and scientific research people who now make up its large membership.

I am happy to extend my greetings and congratulations to the present officers and members of this worthy society.

From H. B. Tukey

President, American Society for Horticultural Science

THE APS WAS organized when the need arose for a critical evaluation of varieties of fruit suited to America, and from its findings, emerged the varieties upon which our commercial fruit industry is based.

During the development of the industry, there appeared the need for the establishment of the correct name and proper identity of varieties. The famous "Code of Nomenclature" was in response to this need, and the Society became quite properly the "Supreme Court" of American fruit-growing.

The Society has had a great record of achievement. It will continue to serve the fruit industry in the years that are ahead.

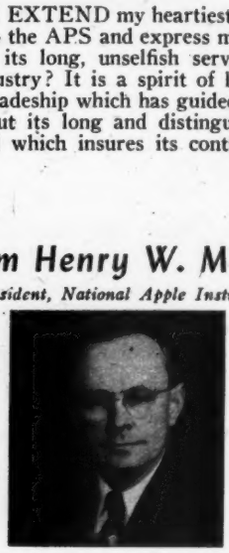
From Harry F. Byrd

United States Senator, Virginia

MAY I EXTEND my heartiest congratulations to the APS and express my appreciation of its long, unselfish service to the fruit industry? It is a spirit of helpfulness and comradeship which has guided the APS throughout its long and distinguished history, and which insures its continued success.

From Henry W. Miller

President, National Apple Institute



ON BEHALF OF over 14,000 apple growers represented in the National Apple Institute, I most respectfully salute the APS at this, the end of its first one hundred years of service to the fruit industry of the United States. The long and honorable record of the Society needs no amplification by mere words. We, the producers, are deeply thankful and justly proud of the Society.

From Sheldon W. Funk

President, National Peach Council

THE PEACH INDUSTRY of this country wishes to congratulate the American Pomological Society upon its completion of one hundred years of tireless effort in the advancement of American horticulture.

We congratulate you upon the success of your past efforts and look forward with much anticipation to your work of the future.

THE STORY OF THE WILDER MEDAL

By H. B. TUKEY

"A DIE BEARING the likeness of our President has been prepared . . . and your committee beg that in honor of the worthy President of our Society, who has devoted more than one-third of his lifetime to its interests, the medal shall be known as, and styled 'The Wilder Medal'."

Thus was the famous Wilder Medal established at the 13th session of the APS held in Boston, Mass., in 1873, "the worthy President" being Marshall Pinckney Wilder of Dorchester, Mass., who in 1848 presided at the organization meeting of one of the two societies which merged in 1852 to become the APS, and which he served continuously as president from 1852 until his death in 1886.

U. P. Hedrick

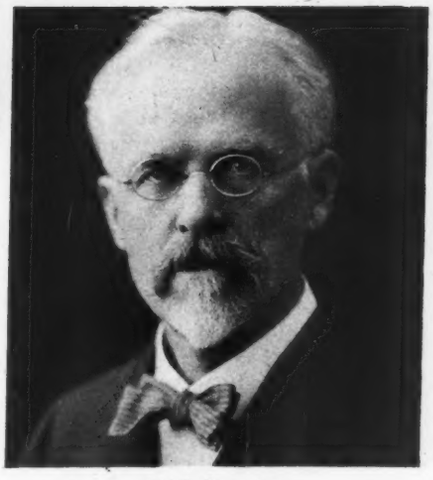
The Wilder Medal is impressive in its history and in its prestige. But anyone who will take down from the library shelves the *Proceedings* of the APS will be even more impressed by the man for whom the medal was named. He was one of the giants of his times in pomological circles, and so any discussion of the Wilder Medal begins with the man for whom it was named.

Marshall Pinckney Wilder was born in New Hampshire in 1798 and died in Boston in 1886, having lived for nearly half a century in Dorchester, a suburb of Boston. He was an active member of the Massachusetts Horticultural Society for 56 years, a founder of the APS, a founder of the Massachusetts Board of Agriculture, a trustee of Massachusetts Institute of Technology, a colonel and commander in a military company, and president of the New England Historic and Geneological Society from 1868 until his death. In short, Colonel Wilder was a significant figure of his time.

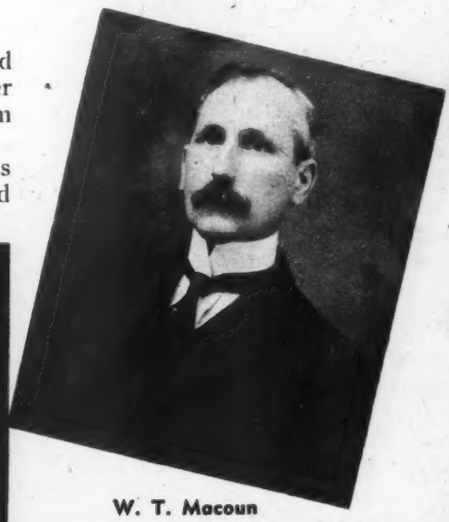
When he turned to horticulture, he apparently directed his full resources and abilities toward it. He was particularly fond of the grape and the pear and attempted to test every native pear he could find, testing more than 1200 varieties in all. In 1873 he exhibited more than 400

(*Continued on page* 50)

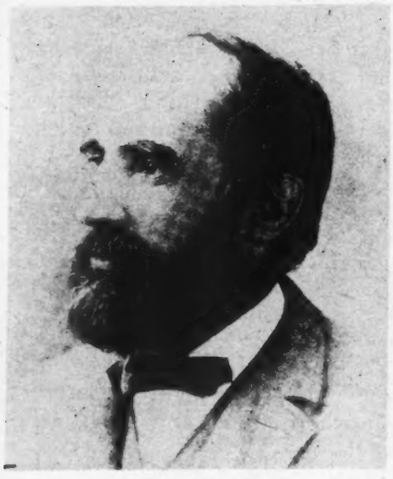
M. A. Blake



N. E. Hansen



W. T. Macoun



Robert Manning

Below—Patrick Barry

The writer is indebted to the late Professor H. P. Gould for information concerning the Wilder Medal, some of which is incorporated in this report.

FROM MARSHALL TO ...

1848

THE AIMS AND accomplishments of the APS are, and for 100 years have been, outstanding examples of leadership in a great industry. It is only fitting that the organization which leads the field should itself have outstanding leaders, and APS has been unusually fortunate in this respect. Under the virile leadership of its presidents, from Marshall Wilder to Stanley Johnston, the APS has done great things, and now looks forward to maintaining and enhancing its reputation.

At its inception, the Society was organized, "To compare fruits from various sources and localities, with a view of arriving at correct conclusions as to their merits, and to settle doubtful points respecting them.

"To assist in determining the synonyms by which the same fruit is known in different parts of the country.

"To compare opinions respecting the value of the numerous varieties already in cultivation, and to endeavor to abridge by general consent the long catalogue of indifferent or worthless sorts at the present time propagated by nurserymen and fruit growers.

"To elicit and disseminate pomological information and to maintain a cordial spirit of intercourse among horticulturists."

Thus read the Circular sent to pomologists and fruit growers calling them to the first meeting of what was to become the American Pomological Society in the gold-rush autumn of 1848.

In New York City's Clinton Hall, at 11 o'clock Tuesday morning, October 10, 1848, the Honorable James Tallmadge, president of the American Institute, rapped for order. He then explained to the 107 delegates who had gathered from most of the then existing states for this first National Congress of Fruit Growers, that the meeting had been called to attempt a solution of the perplexing situation relative to fruit varieties.

In connection with this meeting, horticultural and agricultural societies in practically every state had been asked to send specimens of fruit for display, and the exhibit tables were filled with fine fruit varieties. From that time, fruit exhibits were to remain an important and picturesque part of the conventions for years to come. They supplied the basis for much of the discussion of varieties.

When the first officers were elected, Marshall P. Wilder was chosen president. President Wilder, the distinguished scholar and pomologist from Massachusetts, was eventually to hold this honor for 34 consecutive years, the longest tenure of that office in the history of the American Pomological Society.

After the election, a Special Fruit Committee was appointed whose responsibility was the examining of fruits and reporting their merits and demerits. Andrew Jackson Downing, whose name has long since become immortal in the literature of horticulture, was appointed chairman, and the list of varieties which this committee adopted recommended for planting 13 varieties of apples, 14 of pears, 10 of peaches, nine of plums and eight of cherries, most of which have long since passed from the commercial scene.

Another committee was appointed to investigate the various diseases and damage done in the orchard by harmful insects. This was a long while before modern control methods were practiced; and control measures suggested were very crude.

The second session of the Congress of Fruit Growers convened on October 2, 1849, again under the auspices of the American Institute in New York City. At this meeting, Andrew Jackson Downing, chairman of the General Committee, made a significant report. Coincident with the 1848 meeting of the Congress of Fruit Growers in New York, a similar meeting had been held in Buffalo under the title, "North American Pomological Convention," sponsored by the New York Agricultural Society. Downing's report was to the effect that the latter organization desired to unite with the Congress of Fruit Growers to create a single national group, since the objectives of both organizations were identical. The Congress agreed to this union and thereupon changed its name to the American Pomological Congress.

The list of varieties recommended for planting in 1849 grew to include seven varieties of vinifera grapes (Isabella and Catawba), three nectarines, four raspberries, three strawberries, three apricots, of which Moorpark was one, five currants and 10 gooseberries. One new cherry variety was added to the previous year's list, 10 new pears were named, all of which have passed out of commercial use, and 12 new apple varieties were added, three of which are still grown to some extent: Hubbardston, Red Astrachan and Winesap.

The third convention, now called the American Pomological Congress, was held in Cincinnati, Ohio, October 2-4, 1850. President Wilder was unable to attend the meeting and W. D. Brinckle of Philadelphia was elected president. Delegates also decided to hold their meetings biennially thereafter.

More remarks on the damage of insects and blights were now filling the Society reports. Chief among the fruit growers' pests were curculio, rose bug, measuring worm, the "Caterpillar," fire blight and other diseases whose identity were unknown to growers at that time.

At the Philadelphia convention on September 13 and 14, 1852, President Brinckle declined reelection and Marshall Wilder was again chosen to fill the chair. Thus began his long tenure. A new constitution was read and adopted at this meeting, and the name of the organization was changed

M. P. WILDER TO STANLEY JOHNSTON

By ELDON S. BANTA

1948

100 Years of Progress in Fruit Growing

to its present title, American Pomological Society.

Space does not permit briefs of each Society convention to be written here, but if that were possible, one could see that APS, the oldest national agricultural organization in the country, did more than any other single group to bring order and understanding to the random practices of fruit growing in America. The rise of the commercial fruit industry at the turn of the century initiated scientific pomology, gave impetus to great manufacturing concerns supplying chemicals and machines to the nation's farmers, and proved to the world that American soil could produce the finest of fruits in great abundance. For advancements in skill and in techniques of production and marketing, we can express our thanks to the APS for its promotion and encouragement that has brought fruit growing to its present high esteem in science and commerce.

The monumental achievement of the American Pomological Society is its "Catalogue of Fruits." The first few editions were lists of the best varieties of fruits to plant, but soon so many new varieties were being offered for planting that some segregation was necessary. The first step was to produce a list of rejected varieties—those not suitable for general planting. The next step was to divide the country into fruit sections and list those varieties for each section which were most suitable to that particular environment. The Catalogue thus became more flexible and more useful to those engaged in the expanding fruit industry, and its listings expanded from 54 varieties in 1848, to 580 varieties of all kinds of deciduous fruits listed as suitable for planting in the United States and Canada in 1870. In that year, 675 varieties were rejected as not worth consideration.

The Code of Nomenclature formulated by the American Pomological Society, to be used as a guide in naming varieties, was the first of its kind and immediately received world-wide attention. This system, modified to meet present requirements, is still used by pomologists the world over.

From the founding of the Society, its membership and officers have come from both the United States and Canada. It has achieved much harmony in the pomological interests of these two countries, and for this feature the Society deserves another laurel.

Officers and members of the APS were instrumental in encouraging the inauguration of the first Division of Pomology in the United States Department of Agriculture, although they were aware of the fact that its creation would limit the Society's activities. In fact, the Society requested, in 1897, that the Division of Pomology take over the publishing of the "Catalogue of Fruits," which it did for many years.

The Society also favored and encouraged the act which created state agricultural colleges and experiment stations. Its members also helped state horticultural and pomological societies to organize. These early pomologists were of the opinion that such a course of action was necessary to promote the growth of scientific horticulture in America.

By 1903, the field of horticulture was well interspersed with scientists, products of the early agricultural colleges, and in that year, during the meeting of the American Pomological Society in Boston, these scientific men assembled and laid the foundation for the American Society for Horticultural Science, the present official body of horticulturists.

Many early pomologists, such as Wilder, Warder, Downing, Longworth and Brinckle, were not fruit growers according to our standards today, nor would they, today, come under the category of "scientific pomologists." Nevertheless, they supplied inspiration to fellow fruit growers and nurserymen within and outside the American Pomological Society by the very nature of their insatiable thirst for knowledge of the culture of fruits. They quenched that thirst through keen observation and precise deductions—precise as could be expected in that day; and they believed in disseminating that knowledge in a scholarly fashion.

The Society had its ups and downs as time went along. It needed a national emergency to spike new life into its veins from time to time. Thus, when the problem of spray residues became acute and it seemed that fruit growers were going to have to wash their fruit or not spray (which would be suicide to the business of fruit growing) the American Pomological Society came to the rescue. It fought for, and succeeded in maintaining, a high enough residue tolerance that growers in most areas would not have to go to the added expense of residue re-

(*Continued on page* 54)

The presidents who have so faithfully served the American Pomological Society one hundred years are the following:

M. P. Wilder, Massachusetts	1848
W. D. Brinckle, Pennsylvania	1850
M. P. Wilder, Massachusetts	1852
P. J. Berckmans, Georgia	1887
Charles L. Watrous, Iowa	1897
J. H. Hale, Connecticut	1903
L. A. Goodman, Missouri	1905
W. H. Hutt, North Carolina	1915
L. H. Bailey, New York	1917
Paul C. Stark, Missouri	1924
R. W. Rees, Massachusetts	1928
J. C. Blair, Illinois	1929
B. S. Pickett, Iowa	1932
T. J. Talbert, Missouri	1941
Stanley Johnston, Michigan	1945

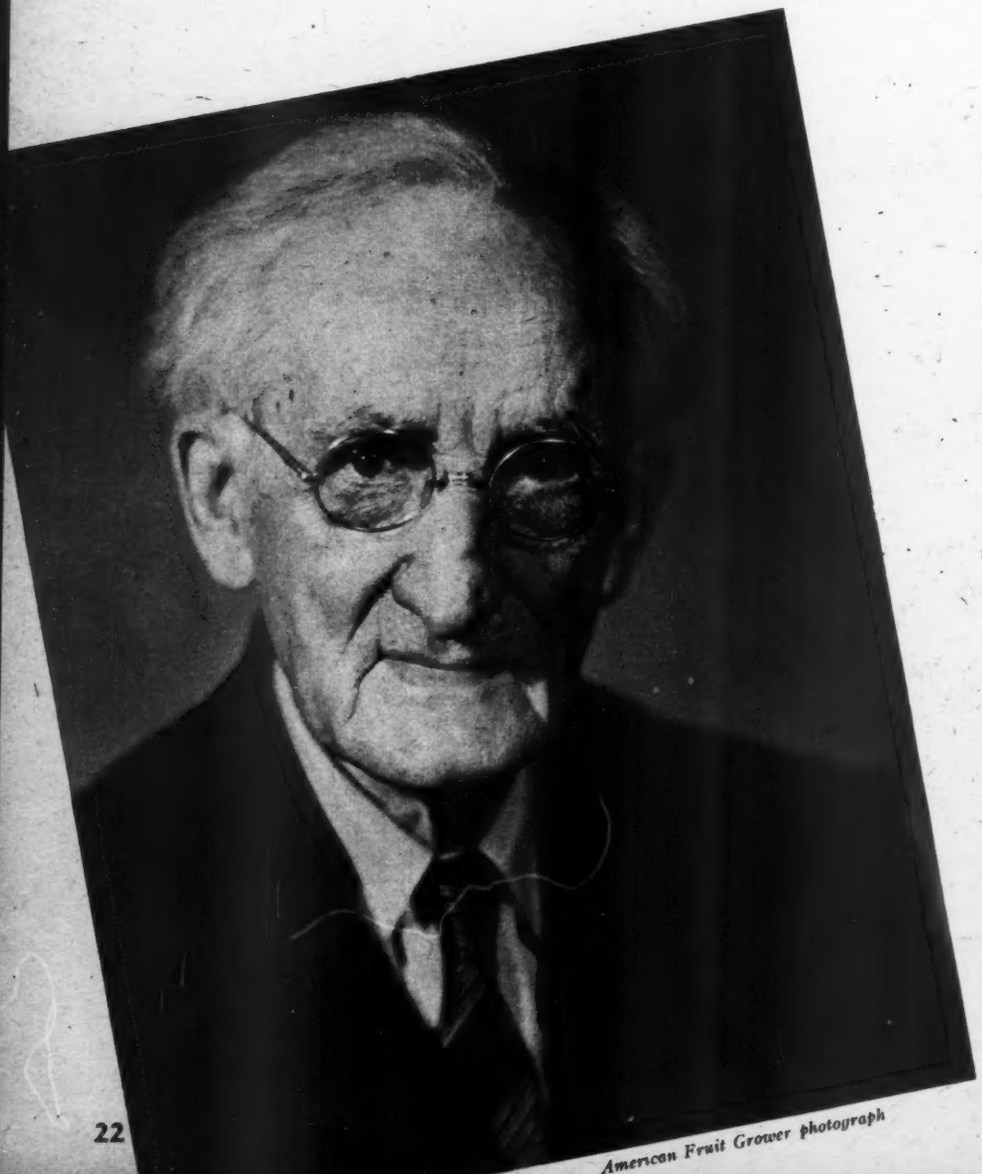
AMERICA'S GREATEST HORTICULTURISTS

By E. G. K. MEISTER

THERE ARE SOME AVOCATIONS which are fortunate in attracting the interest of talented men. Horticulture is one of these. In the words of Henri Poincare, "The scientist does not study nature because it is useful alone; he studies it because he delights in it and he delights in it because it is beautiful." The horticulturist has a similar broad concept of his avocation. He works quietly and effectively, gives generously and cooperates with all who are similarly interested. Since nature works slowly her wonders to perform, his work requires patience and perseverance. It is seldom finished in a lifetime, but another is always ready to go on where the last left off.

Such is the story of horticultural progress in the last century. A never ending effort is made to solve the force and genius of nature. It is the work of many in one common cause. Perhaps that is the reason so little is heard about individual horticulturists and why there has not been public recognition and a great horticultural personality since the days of Luther Burbank. Yet there are plant scientists who are active today and whose work exceeds that of the man who bore the sobriquet of America's plant wizard.

It is difficult to name the foremost horticulturists of today. There are many leaders, and there are also many specialists; but when AMERICAN FRUIT GROWER asked the heads of horticulture in the leading agricultural colleges to choose three whose work is outstanding, they readily selected Liberty Hyde Bailey, William Henry Chandler and Ezra Jacob Kraus. These men have sought to explore, to improve, to cross-breed, to graft, to plant, to study, to stimulate, to teach and to lead, and so expand American horticulture which today is pre-eminent in the world. They represent the science of horticulture which from the beginning replaced the sloes, bitter crab and thorny pear of early America with neatly planted patterns of millions of acres of luscious fruits. To them is due the recognition and thanks of their countrymen.



American Fruit Grower photograph

LIBERTY HYDE BAILEY

ON A RECENT TRIP to South America searching for palm specimens, Liberty Hyde Bailey was visited by a native woman who was soon to have a baby. Noting that he was addressed as "Doctor," she had come for treatment. The American botanist explained that he wasn't that kind of a doctor, that he didn't know how to treat one who was ill. To this the woman replied, "What's the use of being a doctor if you don't know anything!"

There was irony as well as humor in the woman's remark, for she was addressing a great scholar—the man who has just been judged by his colleagues one of America's great horticulturists.

Dr. Bailey will be 90 years old next March 15, but he doesn't plan to be around for birthday celebrations. He will be in some tropical country, probably in South America, collecting and studying palms. Last year he made 72 flights in all, mostly in the Amazon valley.

His absence, however, will not prevent nationwide honor to the man who has made so many contributions to agriculture and the related fields of horticulture and botany. To men everywhere who study the soil and the things it produces, his name has become a legend. Still erect and clear-eyed despite his 90 years, Dr. Bailey has no idea of retiring from

(*Continued on page 57*)

WILLIAM HENRY CHANDLER

IT IS IMPOSSIBLE to picture William Henry Chandler as a cold scientist. A big man standing well over six feet, he has a tremendous capacity for work together with a directness of approach that belies the subtleties and finesse of the artist. Yet, in horticulture, it is Chandler who deftly paints the big picture for others to study. He has the depth and capacity to show the inter-relationship of all fields of horticulture.

A glance through his latest book "Deciduous Orchards" reveals much of his personality. This is not an ordinary text book dispensing classified facts in sequence; it is rather a well-thought-out manuscript reflecting the thinking of a learned man on all of the highly complicated, unrelated facets of horticulture.

To those who scoff at a theoretical approach to a practical problem, Chandler's favorite reply is, "I wouldn't hesitate to plant a tree up-

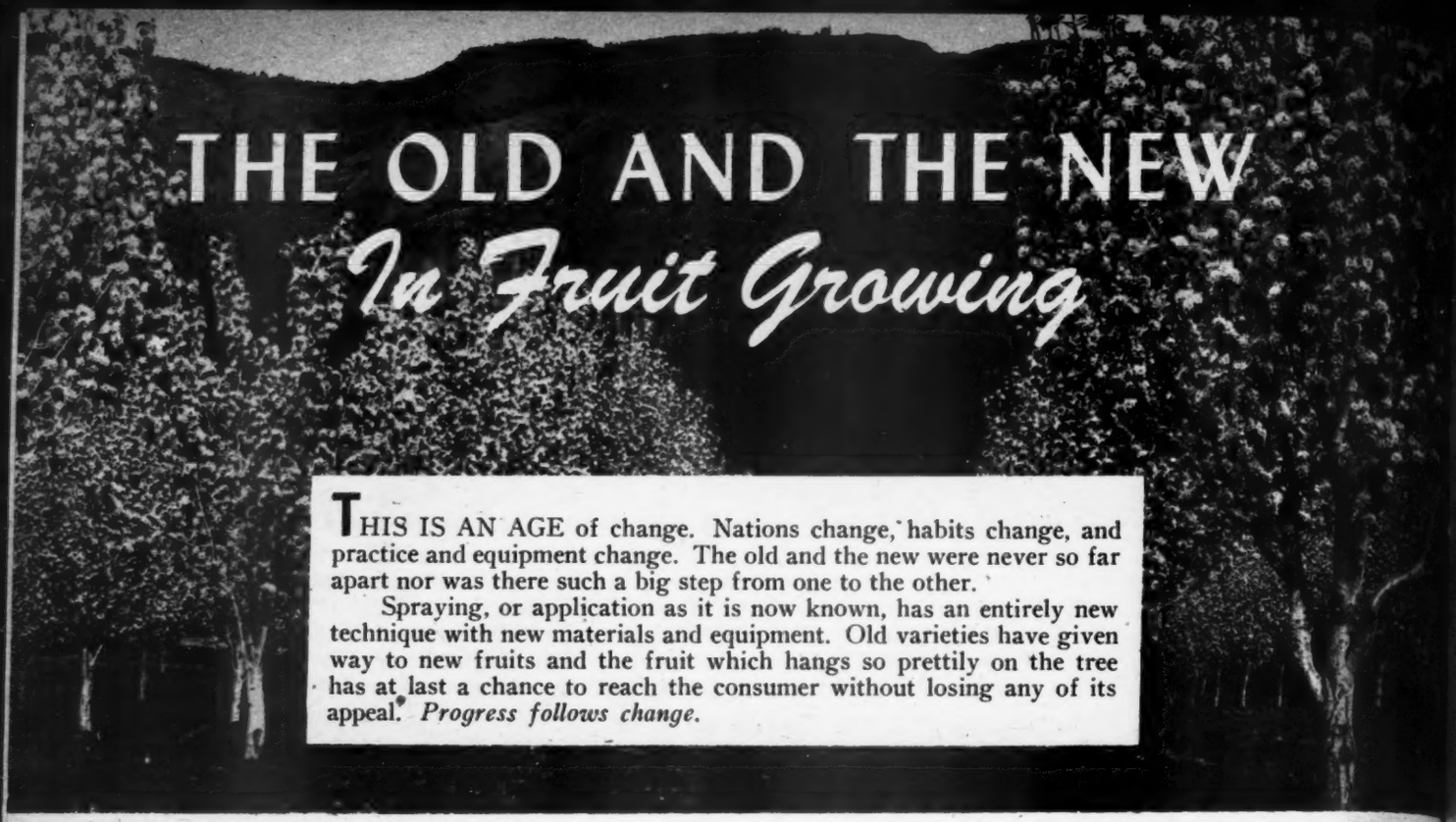
(*Continued on page* 64)

EZRA JACOB KRAUS

ONE of Ezra Jacob Kraus's outstanding characteristics which marks him as unusual is his ability to recognize the practical application of pure science. As much as any other man, Kraus started the scientist thinking in terms of practice, and then to complete the circle he got the grower thinking in terms of the scientist. He bridged the gap between laboratory and field and brought the two together as a powerful force in horticulture. Nowhere is this better illustrated than in his classic work with Kraybill in applying the carbohydrate-nitrogen theory to practical fruit growing. On the one hand was the succulent non-bearing plant, the so-called over-vegetative type, and on the extreme opposite the woody non-bearing one. Somewhere between these the plant makes a satisfactory growth, blossoms freely, and sets fruit well.

The establishment of these principles and an understanding of how to apply them to orcharding, is one of the milestones in the progress of horticulture. This remarkable discovery is paralleled in the field of growth regulators. The work of Kraus with hormones is as revolutionary as it is significant, and again he moved the laboratory out into the field. The fu-

(*Continued on page* 62)



THE OLD AND THE NEW *In Fruit Growing*

THIS IS AN AGE of change. Nations change, habits change, and practice and equipment change. The old and the new were never so far apart nor was there such a big step from one to the other.

Spraying, or application as it is now known, has an entirely new technique with new materials and equipment. Old varieties have given way to new fruits and the fruit which hangs so prettily on the tree has at last a chance to reach the consumer without losing any of its appeal. *Progress follows change.*

PROGRESS IN APPLICATION

By E. J. RASMUSSEN
Univ. of New Hampshire

THE DEVELOPMENT of spraying equipment and methods of application for pest control on fruits is one of the remarkable developments in fruit production practices. Within a period of less than 80 years, spraying equipment has progressed from the heath whisk, or whisk broom, to high pressure spray machines delivering 85 gallons per minute, maintaining pressures of 800 to 1,000 pounds, and capable of forcing materials to the tops of tall shade trees.

The period from 1880 to 1900 was one of evolution in the development of spraying equipment. The introduction of Paris green about 1860, for the control of leaf and fruit eating insects, and the discovery of bordeaux as a fungicide in 1880 created a demand for spraying equipment which could be used to treat all kinds of plants from potatoes to shade trees.

The simplest device, used as late as 1880 for making liquid application to plants, was the whisk broom. This was followed by the sprinkling can, which was suitable for wetting low-growing crops only, but was too wasteful of materials. The need for something which could be used for applying liquid materials to trees led to the manufacture of the hand pump or syringe in 1878. The first of these hand pumps was quite simple, consisting of a cylinder and plunger. The spray material was drawn in and discharged through the same opening.

The garden engine, a misnamed machine, since it had no engine, but consisted of a hand spray pump and tank mounted on two wheels; the knapsack sprayer; and the barrel pump were all developed from 1860 to 1890 and were in general use during the latter part of this period.

The first traction sprayer was designed in 1887 by the A. H. Nixon Company of Dayton, Ohio. It was satisfactory for low crops only because it had to be kept in motion in order to keep the pump operating.

The first successful power sprayer was powered by a steam engine. It was built in 1894 by Stephen Hoyt of New Canaan, Connecticut.

Gas engine driven spray machines were made a year later in 1895 and by the turn of the century there were several makes on the market.

The period from 1900 to 1930 saw little change in methods of application except the improvement in high-pressure spray pumps. The biggest development during this period was the perfection of the modern pressure regulator by the Bean Spray Pump Co. of Lansing, Michigan. This pressure regulator made it possible to design larger pumps which could be operated continuously with higher pressures than had previously been used.

The stationary spray plant was

(*Continued on page* 39)

PROGRESS IN ORGANIZATION

By CARROLL R. MILLER
Appalachian Apple Service

A HUNDRED YEARS AGO there was superb organization in fruit growing. For instance, my grandfather grew fruits and he and his family harvested them, hauled them to nearby towns, and sold them, mostly house-to-house. The entire job, from soil to consumer, was under one control—Grandfather's. He knew what his customers wanted and shaped his year's work to their wishes. He had to, to sell them. There it is, a single plan or control—start to finish—and that control directly answerable to the consumer. That is business organization.

Some 50 years ago we began to lose that organization. The nation became urban instead of rural. Grandfather began to ship his fruit to the cities. He planted larger—much larger acreages. He sold now to distant wholesalers. His neighbors, the consumers, faded out. And his control of his product lessened. He worked now to meet the preferences of his wholesalers. They wanted the fruit, not to sell to consumers, but picked and packed to withstand the necessary handling and time-lapse while in their hands, and "faced" for strongest appeal to the retailer.

(*Continued on page* 44)

PROGRESS IN PESTICIDES

By E. D. WITMAN
Ohio State University

YES, THEY *did* have pests in the 19th century, and even before that too, but the real beginning of pest control came along during the very early part of the 20th century. This beginning was made with such common agents as arsenic, copper and sulfur compounds, and it was something of a hodge-podge until responsible manufacturers standardized their products chemically and physically. Also, during this beginning, agriculture was changing; we were concentrating our crops and developing more succulent varieties, and our pest problems increased.

One-fourth of the way through the 20th century the limitations of our inorganic pesticides began to be noticed. They lacked specificity for killing pests without injuring crops. There were only a relatively few changes which could be made in our inorganic chemicals. There were hazards such as poisonous natures, bad odors and tastes, high corrosion effects, etc. Too, competition became

(*Continued on page* 47)

PROGRESS IN CULTURE

By CLARENCE E. BAKER
Purdue University

MANY CHANGES in cultural practices with fruit trees have occurred during the last century. Until the late '90's, apple orchards were grown without too much thought as to the most efficient cultural methods. Shortly before the turn of the century, several series of orchard soil management studies were established. Generally, these studies indicated better growth and production from cultivation than from sod culture. Sods appeared to encourage moisture shortages, were thought to influence unfavorably the soil bacteria, and were even considered by some investigators to excrete materials that were toxic to apple trees.

Following these results, the trend turned toward intensive cultivation. So strong was this trend that during the 1910-1915 period a man who permitted a weed or a clump of grass to grow in his orchard was looked upon as a slovenly orchardist. For a time, intensive cultivation gave good results. The trees made excellent growth and produced abundant crops. This was only natural as the organic matter in the soil was being converted to soluble forms of nitrogen and other nutrients which made ideal growing conditions for the trees. Applications of nitrogen and other elements often failed to show a response, as the trees were obtaining all the food they could use. Before many years, however, the organic matter was burned up to the extent that the trees became less vigorous. Winter cover crops were used to restore the organic matter and larger amounts of fertilizers, particularly nitrogen, were applied to the trees.

After some years of this practice, it was found that cover crops alone could not be depended upon to maintain the organic matter in the soil at a sufficiently high level or to prevent serious erosion. Stable manure used in large quantities helped improve the soil and the importance of

(*Continued on page* 46)

PROGRESS IN VARIETIES

By GEORGE M. DARROW
United States Department of Agriculture

JUST AS WITH OTHER lines of agriculture and industry, great changes have taken place in fruit varieties in 100 years, and the changes come faster as experience and science progress. Now the changes in varieties in a decade are more extensive than those of several times that period 100 years ago. The changes have occurred because of the development of cold storage and refrigeration, because of the use of fungicides and insecticides, because of development of spray machinery, because of breeding for new varieties, and because of the use of color sports. Strawberries were grown only near the markets 100 years ago. Then we did not need varieties like the Missionary, Klonmore, Blakemore, and Massey, to be grown in southern states and shipped hundreds and thousands of miles to market. With the development of refrigeration and motor trucks the need arose for varieties that would succeed in the warm, humid South. Now we have them. We had no blueberry industry then, but Coville's breeding work has made a cultivated crop of this fruit.

Probably the greatest advance in apple varieties in the last 30 years has been in finding and introducing color sports. Red sports of Rome, Delicious, Stayman, Jonathan and

(*Continued on page* 48)

PROGRESS IN STORAGE

By R. M. SMOCK
Cornell University

APPLES STORED in a pit in the ground probably tasted pretty good to the farmers of 1880 when they sampled them around Christmas time. Fruit of any kind out of season was a treat. When common storages came into use, fruit farmers were able to extend the keeping period somewhat longer but a relatively short storage season was practiced, and only the use of long-keeping varieties was considered.

At the turn of the twentieth century when refrigeration began to "come into its own," relatively few apples and other fruits were stored in refrigerated cold storages. Hence, the big development in cold storage of fruit has taken place in the last 30 years. The development of "air conditioning" equipment has helped stimulate progress in the cold storage of fruit. Cold air is actually circulated among the boxes of stored fruit by means of blowers and duct work to accomplish rapid removal

(*Continued on page* 48)

PROGRESS IN EQUIPMENT

By A. E. MITCHELL
Michigan State College

BEFORE 1880, the commercial fruit growing industry of the United States was located east of the Mississippi River. All orchard and field operations, with the exception of tillage and hauling, were carried on by hand labor and the only means of pest control were sanitation, accompanied by an occasional application of Paris green as a dust or spray for chewing insects. Fruit was stored in cellars on the farms or hauled to town and placed in ice-cooled fruit storages. With the development of irrigation in the Northwest, fruit growing developed in that section from a few home orchards in 1885 to over 30,000 acres by 1905. A carload of apples was shipped out of the Yakima Valley in 1896 to the East Coast in search of new fruit markets. This was followed by more and more ice-refrigerated car shipments as young plantings came into production with the result that East and

(*Continued on page* 66)

U. P. HEDRICK

Speaks of The Fruits of Yesterday

TWO OF THE OLDEST apples in America are Russets. For 200 years these were used mainly for cider, which was the chief use for apples until 1850. Golden Russet was a good winter apple and Roxbury Russet the best to keep in common storage until spring. From 1750 to 1900 Rhode Island Greening and Baldwin, known by all, were the best green and red apples for commerce. The Greening, which is the better of the two, is still much grown. Fameuse, or Snow, parent of McIntosh, with red skin, white flesh stained red, so small that a boy ate it in two bites, was a favorite for 150 years until about 1900 when the offspring took the place of the parent. Two apples, with shapes like a sheep's nose, were Black Gilliflower, a winter apple with a sweetish, nutty flavor, the best for baking; and Chenango, striped red, the best of all September apples when eaten from the tree. Dyer, well-described by a synonym, Golden Spice, was another choice autumn apple. Gravenstein, still another fall apple, from 1800 has been known for its delectable flavor, aroma, and waxy bloom.

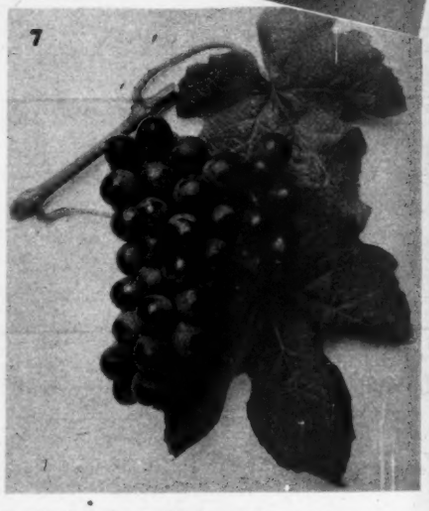
Of all apples, Green Newtown, Albemarle Pippin in Virginia, is most historical; Benjamin Franklin introduced it in England in 1759, and Thomas Jefferson made it famous in Virginia. Grimes Golden is another noble yellow apple grown in West Virginia more than a hundred years ago. Rivaling these yellow apples are two red ones from the Hudson River, Esopus Spitzenburg, or "Spitz," crackling with juicy crispness, and Jonathan, both with world-wide reputations. Northern Spy has been a prime favorite winter apple for 150 years because of high quality and beauty. Talman Sweet, a pale yellow apple with a suture line from calyx to stem, has long been the best known sweet apple. Space permits only brief mention of King, a very large red apple of high flavor; Lady, a very small red and green apple for Christmas; Red June, a small, red, white-fleshed summer apple in the South; Williams, a red

(*Continued on page 60*)

About the Author

Dr. Ulysses Prentice Hedrick has won world-wide recognition in developing new fruit varieties and has received many distinguished horticultural awards. In 1925 he was awarded the George Robert White Medal of Honor for horticultural achievement and in 1929, the Wilder Medal of the American Pomological Society.

Under his direction, the New York State Agricultural Experiment Station produced the Catskill strawberry, and the Fredonia, Golden Muscat, Portland and Sheridan grapes. He is author of many books on horticulture, the most celebrated of which are the six huge volumes on the Fruits of New York.—*Ed.*



1. **Seckel, best old American pear.**
2. **An old-time red raspberry, Cuthbert.**
3. **Hovey was first good strawberry.**
4. **German Prune, one of oldest plums.**
5. **Chinese Cling, first yellow-blushed peach.**
6. **Rhode Island Greening, 1748.**
7. **Catawba, first good American wild grape.**

PROTECTION PLUS!

Spray or Dust with-

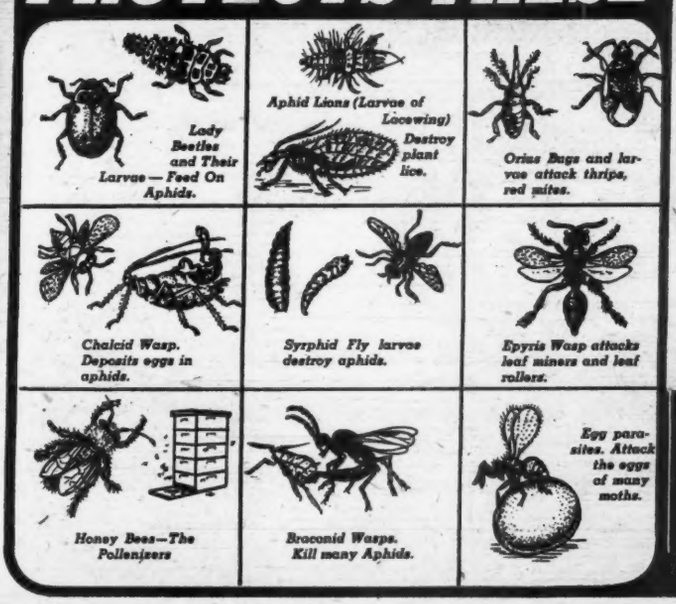
BLACK LEAF 40

—THE
"DISCRIMINATING" INSECTICIDE

KILLS THESE

Spraying with Black Leaf 40 kills the aphids without destroying beneficial insects that fight on the side of mankind. Use it, and differentiate between your insect friends and insect enemies, for added crop protection.

PROTECTS THESE



—DOES DOUBLE DUTY

—Kills By Contact
—Kills By Fumes

— And it is compatible with other standard spray materials, saving time and money in application.

BLACK LEAF 155

— the fixed nicotine product for control of codling moth, grape berry moth, leafhoppers, citrus thrips and similar pests. It drys and sticks through driving rains.

TOBACCO BY-PRODUCTS & CHEMICAL CORPORATION
Nicotine Specialists Since 1885
LOUISVILLE 2 • KENTUCKY

MEMORIES

Approaching His 90th Birthday LIBERTY HYDE BAILEY Looks Back At APS and A Lifetime of Horticulture

MEMORIES of the old American Pomological Society turn about two concerns: personalities, and the varieties of fruits.

Purposes of the original Society, as stated by its president, Marshall P. Wilder, preliminary to its sixth session in Rochester, New York, in 1856 are: to bring together the most distinguished Pomologists of our land and, by a free interchange of experience, to collect and diffuse such researches and discoveries as have been recently made in the science of Pomology; to hear the reports of the various State Committees and other District Associations; to revise and enlarge the Society's Catalogue of Fruits; to assist in determining the synonyms by which the same fruit is known in America or Europe; to ascertain the relative values of varieties in different parts of our country; to determine which varieties are suitable for particular localities and which new sorts give promise of being worthy of dissemination and, especially, which are adapted to general cultivation.

This was stated in the days before the establishment of governmental experiment stations; before recognition of agriculture in the United States by a Secretary in the President's cabinet; and even a year preceding the opening of the first state-supported college of agriculture in Michigan, about 40 years before horticulture began to be a science in the institutions. Interior regions of Canada and the United States were being developed for settlement, and the kinds of products adaptable to the regions had yet to be suggested and tested. Johnny Appleseed had gone into the wilderness of what was then the West with bags of seeds. Other travelers and settlers carried fruit tree seeds. My father took apple seeds from the old orchard in Vermont into the wilderness of southwestern Michigan, and in due course I top-grafted the trees to "good varieties." We got scions from Charles Downing on the Hudson, and I remember the letter he wrote my father refusing to take any pay because all persons who love good fruits wish to encourage the growing of them; thus, to this day, whenever I take down *Fruits and Fruit Trees of America*, I am stimulated by those sentiments. There were no typewriting machines in those days, and letters had character. At my earliest opportunity I went to the remaining Charles Downing orchards, as Figures 1856 and 1857 in *Standard Cyclopedia of Horticulture* testify.

These men in different parts of the developing North America were the experimenters of those days. The first spraying I ever saw was in my father's orchards at least as early as the opening 1870's. Twice one of those orchards took first prize as the best orchard entered in its class in the state as determined by committees of the State Pomological Society that visited the entrants. Trees for that orchard were obtained from the nurseries of Ellwanger and Barry in Rochester, New York, and my father carried them on his back from the railway terminus 40 miles through the wilderness. In those orchards I top-worked scions from many places, and once I displayed 329 varieties (as I remember it) at a local fair, most of them apples, all from our own trees. Assuredly there were many things in the world to stimulate man's curiosity. It was wonderful to see these beautiful fruits come into being as the great woods disappeared, and now the place is only a city or its environs.

We had apples (and usually pears) continuously from the first worm-hole in August to the following summer. There were sufficient crops of standard varieties for shipment to Chicago in barrels. One of the seedlings in my earliest days bore the most luscious apples that ever met a boy's tooth. I regretted that I had to top-graft it and thereby eliminate it from the earth. Many times in after years I visited the tree to look for a sprout below the graft. At last a shoot sprang up from the root. Eagerly I took it home and grafted it in my York State orchard, and eagerly also I waited for the fruit. When its apples were turning a burning red, I declared myself a holiday and sat in the grass to devour them. The apples were so contrary I could not eat them; and, thus, I demonstrated the debasement in human gusto or at least in juvenile appetites.

The ardor of novelties was in the Old American Pomological Society. Rewards were in the varieties themselves. There is no hint of market value in Wilder's statement opening this article. I keenly remember the delight with which he took me through his orchard of pears at Dorchester (now absorbed in Boston). There were hundreds of varieties, many of them imported from France, and he expressed his careful appreciation of form, color and quality with no mention of market. He loved all forms of beauty and excellence as his interest in breeding camellias testifies. I found the same order of sentiment in Charles M. Hovey, editor of "Magazine of Horticulture." The Hovey strawberry was grown at that time. The sentiment was also dominant in John J. Thomas, author of *The American Fruit Culturist*, who was living in his Cayuga country when I first came to New York.

Meetings of the Society were biennial, in chosen cities. The exhibits of fruits were extensive and notable. I well remember the careful, deliberate judgments on the fruits by discriminating men in the Society or out of it —such men as T. T. Lyon, T. V. Munson, William H. Ragan, Robert Manning, Charles Gibb, G. B. Brackett, H, E. VanDeman. The products were displayed in the old days on plates or similar receptacles, not in "packs," and each fruit was judged by its own merits in form, color, season, quality; that is, they were fruits rather than commodities. Uniformity in size and color, to be alluring and to ship well, were not in the program in the early and the middle years.

Discussions turned largely on personal experiences with this fruit or that in different parts of the country. These were testimonies, often expressed with something like religious ardor. The membership did not repre-

(*Continued on page* 56)

Here's how "Fermate" helps you CONTROL SCAB EASIER

Tough on scab but easy on trees . . . that's Du Pont "Fermate." Many growers report their highest yields of clean fruit when they use "Fermate" through the spray season.

THE YEAR 1947 was one of the worst scab seasons on record. Yet apple and pear growers who used "Fermate" fungicide consistently reported yields of exceptionally large, clean fruit. Here's why you'll find Du Pont's "Fermate" outstanding:

1. Prevents scab, rust and other fungous infections.

2. No chemical russeting on tender-skinned pears and apples.

3. Protects foliage yet does not burn or reduce leaf area.

4. "Fermate" combines well with most other spray materials, particularly "Deenate" DDT.

5. "Fermate" is a safe control for many important diseases on most kinds of fruit.

With these advantages, "Fermate" gives you full-season protection against diseases. With the healthier "Fermate"-sprayed foliage, the fruits grow larger.

The same applications of Du Pont "Fermate" that stop scab also control apple rusts, pear blight, bitter rot, black rot and many other fungi. "Fermate" is also a safe control for leaf spot of both sweet and sour cherries.

With "Fermate" you can stop brown rot of cherries and plums from blossom time through harvest. Another Du Pont organic fungicide, "Zerlate," is especially adapted to control brown rot of stone fruits, particularly peaches, through harvest and shipping. Applied just before picking, or at the packing table, the light-colored residue of "Zerlate" is hardly visible.

Du Pont's continuing research gives you "Fermate" and "Zerlate" fungicides and other Du Pont materials to provide a full line of pest control products that will give your fruit the protection it needs.

You can get full details on Du Pont spray and dust materials from your local Du Pont technical representative, or the Du Pont Company, Grasselli Chemicals Dept., Wilmington 98, Delaware.

DU PONT *Pest Control Products*

INSECTICIDES: DEENATE* DDT, Lead Arsenates, LEXONE* 50 Benzene Hexachloride, KRENITE* Dinitro Spray, Dormant and Summer Spray Oils, MARLATE* (Methoxychlor), LORO* Contact Insecticide, Rotenone.

FUNGICIDES: ZERLATE,* FERMATE,* and PARZATE* Organic Fungicides, COPPER-A Fixed Copper SULFORON* and SULFORON-X* Wettable Sulfurs, KRENITE* Dinitro Spray, Bordeaux Mixture.

OTHER MATERIALS: 2,4-D WEED KILLERS, AMMATE* Weed Killer, Du Pont SPREADER-STICKER, PARMONE* Pre-Harvest Fruit Drop Inhibitor, Spray Adhesive.

* Reg. Trade Mark of E. I. du Pont de Nemours & Co. (Inc.)

BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

DU PONT
REG. U.S. PAT. OFF.

"Listen to Du Pont CAVALCADE OF AMERICA—*Every Monday Night, NBC Network"*

U. S., THE WORLD'S FRUIT BASKET

By MONROE McCOWN
USDA, Office of Foreign Agricultural Relations

THE UNITED STATES leads the world in the production of tree fruits. From the orchards and groves of our nation come about 41 per cent of the combined world production of an estimated 31.6 million tons of apples, pears, peaches, plums and prunes, oranges, grapefruit and lemons. Europe is second with 39 per cent, followed by South America with 8 per cent, Asia about 5 per cent, Africa 2 per cent, and Oceania (Australia and New Zealand) nearly 2 per cent. North American areas other than the United States (Canada, Mexico and the West Indies) account for the remaining 3 per cent of the world total. Of the individual fruits, the United States produces about 22 per cent of the apples, 23 per cent of the pears, 69 per cent of the peaches, 39 per cent of the plums and prunes, 47 per cent of the oranges and tangerines, 96 per cent of the grapefruit, and 48 per cent of the lemon tonnage of the world.

Apples.—During the five-year period, 1943-47, the apple crop in major producing countries averaged 10.8 million tons (about 450 million bushels). About 65 per cent of the apples were produced in European countries other than the U.S.S.R. France accounted for about 39 per cent of the European crop with an average production of 115 million bushels. Germany ranks second to France, and Switzerland, Austria, the United Kingdom, Italy and Rumania are countries with production averages of 10 million or more bushels. The 1947 crop of about 25 million bushels of dessert and cooking apples in the United Kingdom is a record, equalling the total of prewar (1934-38) average production (10.6 million) plus prewar average imports (13.6 million bushels). Despite the fact that Europe led in apple production, it was the leading export market for apples from the United States. During the five seasons, 1934-35 to 1938-39, the United States exported an average of 10 million bushels of apples, 8.5 million to European countries.

North America was second to Europe in apple production with 26 per cent of the world's crop, 1943-47. The United States produced about 86 per cent of the North American crop, Canada about 12 per cent (14.6 million bushels), and Mexico 2 per cent. Asia produced about 4 per cent of the world total in Turkey, Japan, Korea and China. The Southern Hemisphere countries of Australia, New Zealand, Argentina, Chile and South Africa, produced the remaining 5 per cent. In these countries, the seasons are the reverse of our own and apples blossom in October and are harvested from March to May.

Pears.—The story of the world pear production parallels that of the apple crop. In general, pears are produced in the same countries and in about the same regions as apples. During the five seasons, 1943-47, 64 per cent of the world pear crop of about 3.5 million tons (140 million bushels) was produced in Europe, 24 per cent in North America, 6 per cent in Asia, and 6 per cent in the Southern Hemisphere countries. Prewar (1934-38) the United States exported an average of 2.6 million bushels of pears, 2 million of these to European countries, 360,000 to Canada, and most of the remaining exports to Latin American countries.

Peaches.—The United States produced an estimated 69 per cent of the world peach crop of about 2.6 million tons during the period 1942-46. Europe produced about 17 per cent, Asia (Japan and Turkey) slightly over 2 per cent, the Southern Hemisphere countries (Chile, Argentina, South Africa, Australia and New Zealand) almost 10 per cent, and Canada and Mexico about 2 per cent of the world total. Peaches are canned commercially in Canada, and are preserved by canning and drying in Australia, and the other Southern Hemisphere countries, as well as in the United States. Prewar, the United States exported the equivalent of about 3 million bushels, about 5 per cent of the crop. Of these exports, about 10 per cent were in fresh form and the remaining quantity was about equally divided between canned and dried.

Plums and Prunes.—The world crop of plums and prunes averaged about 1.8 million tons during the five years, 1942-46. Of this average, European countries produced about 51 per cent, North America 40 per cent, Asia (Japan, Turkey and Palestine), 6 per cent, and the Southern Hemisphere countries slightly over 3 per cent. The United States production accounted for 39 per cent of the world total or the bulk of the North American crop. Yugoslavia, Rumania, Bulgaria, and France produced about 90 per cent of the European total. In these countries, much of the fruit is dried. In the Balkans it is used also in the making of brandy.

During the five prewar seasons, 1934-38, the United States exported about 32 per cent of the domestic plum and prune crop, mostly in the form of dried prunes. Western Europe was the destination of the bulk of these exports. Canada is now the chief export outlet.

Oranges and Tangerines.— The United States leads all nations in the production of oranges and during the period, 1942-46, produced 47 per cent of the world average of 9.5 million tons. Mexico produced 3 per cent of the world crop, and Cuba and other West Indian areas 1 per cent, which brings the North American share of the world average to 51 per cent or 4.8 million tons. In terms of Florida and Texas boxes of 90 pounds net, the world average of 9.5 million tons would total 211 million. California oranges are marketed in 77 pound boxes.

South America produced 19 per cent of the world average, 1942-46. Brazil and Argentina produce most of the commercial oranges in South America. Brazil is a "summer orange" area, competing with California in export markets. The export crop in Brazil is produced in the States of Sao Paulo and Rio de Janeiro. Tristeza, a root disease, has caused heavy loss of trees in both states resulting in a heavy reduction in the crop. The 1946-47 crop was estimated at 9 million boxes as compared with nearly 23 million boxes prewar in the two states.

Europe produced 13 per cent of the world average, mostly in Spain and Italy. Greece has limited commercial production. Production in Asia accounted for 10 per cent of the world total. Japan led during the 1942-46 period with an average of about 14 million boxes, but Palestine, where production was allowed to drop sharply during the war years because of loss of market, is now recovering at a rapid rate and is expected to produce 12-14 million boxes of oranges in 1947-48. Africa produced about 6 per cent of the world crop. Egypt, Algeria, French Morocco and the Union of South Africa produce most of the African

(*Continued on page* 34)

WALT DISNEY'S

LOVE, FAITH, AND THE APPLE TREE were the strange characteristics of Johnny Appleseed, whose real name was John Chapman. With fanatical zeal this remarkable pioneer attempted more than one hundred years ago to convert, singlehanded, the American wilderness into a gigantic orchard.

He did not succeed, but his love for apples and faith in their future were bound to live in the hearts of fruit growers who are today his descendants. A few months after his death in 1847 the American Pomological Society was born.

The story opens with a scene on a farm near Pittsburgh town, where we first meet Johnny Appleseed. Here we see the sleepy little town where he lives and the apple orchard in which he spends each working day. His life is pleasant and full, for he is one of a large family of children. In fact, his father has been twice married, and Johnny enjoys the companionship of several sisters and brothers.

As Johnny grows older, he notices a stirring of restless men and restless feet. He imagines himself to be one of them, marching West. His guardian angel appears and says, "Go West if that is your desire." Johnny hesitates. He is too puny, he says, but the angel encourages him and reminds him that there is a lot of work to be done in the wilderness, a lot of apple trees to be planted.

So Johnny sets out all alone "without no knife, without no gun." He walks through rain and snow, dense wilderness and "scary" places, across waterfalls that threaten to push him and his precious apple seeds into the whirling waters. He wonders if his decision was a good one. The guardian angel stands near and gives him reassurance, and Johnny keeps wandering onward, looking for a likely spot to make his first fruit planting.

Johnny Appleseed

Walt Disney has immortalized in a motion picture the legend of Johnny Appleseed who did so much for so little, and as the editors of AMERICAN FRUIT GROWER previewed the film, they naturally wanted their readers to have a glimpse of this inspiring story.

With the permission of Mr. Disney we reproduce on these pages some of the original artwork, but we cannot recreate for our readers the wonderful music, catchy songs, and charming verse which were especially written for this film and which give it expression and ring.

At last he finds a clearing where the soil is rich. He plows and plants the seeds. The forest animals distrust him, but, finally, the pugnacious skunk decides to investigate. As he approaches Johnny, the other animals feel certain that their unwelcome guest will depart quickly, and they are amazed when Johnny bends over and pets the skunk. The skunk laughs, and other animals come out of hiding to be Johnny's friends.

Johnny and his new friends go off to plant more fields. The seasons pass, and apple seedlings grow into blooming trees. Finally, there are many apple orchards and many cabins. Years have passed, and an apple festival is in progress in one of the settlements. Johnny and his animal friends come out of the woods and watch the pioneers dancing a square dance. The picnic tables are set with many apple delicacies.

His task is completed, his shadow cast all across the land—across a thousand square miles—and Johnny is finally taken to his great reward. His guardian angel appears once more. The angel's hair and beard are white. He says that Johnny is needed in heaven where there is almost everything but apple trees. Old Johnny gets up, leaving his mortal husk, and with the angel marches away in falling apple blossoms.

U. S., THE WORLD'S FRUIT BASKET

(*Continued from page* 30)

crop. The remaining 1 per cent of the world's oranges were grown in Australia and New Zealand.

Prewar (1934-38), the United States exported an average of about 5.2 million boxes of oranges. In the 1946-47 season, exports amounted to 8.2 million boxes with Canada, our chief market, taking 5.5 million, Belgium 1.0 million, the Republic of the Philippines 400,000, Sweden 400,000 and Hong Kong 300,000 boxes.

Grapefruit.—The grapefruit originated in the West Indies, apparently in Barbados, about 1700. It is still mostly a North American fruit, for the United States produces about 96 per cent and North America about 97 per cent of the world total estimated at about 2.3 million tons (59 million boxes), average 1942-46. Grapefruit is grown commercially in Cuba, Jamaica, Trinidad and Tobago, and British Honduras in addition to the United States and Puerto Rico.

Outside North America, Palestine and South Africa each produce slightly over 1 per cent of the world total and Argentina has a small industry which produces about 200,000 boxes annually. Production in Palestine is increasing and may total 2 million boxes within another year.

Prewar, the United States exported an average of nearly 1.0 million boxes of fresh grapefruit. In 1946-47, exports totaled 2.8 million boxes, nearly 1.8 million to Canada.

Lemons.—The world lemon crop averaged about 1.1 million tons, about 28 million boxes, 1942-46, of which 47 per cent were grown in the United States. Europe produced 36 per cent of the world total, nearly 4/5 of which were grown in Italy. Spain produces about a million boxes a year and there is a small commercial industry in Greece. Production in Asia, chiefly Lebanon and Palestine, accounted for nearly 3 per cent of the world crop. Africa and Oceania produced about 3 per cent and South American countries, Argentina, Brazil and Chile, about 11 per cent of the world total.

Domestic exports of lemons averaged about 600,000 boxes, prewar, and totaled nearly 500,000 boxes during the 1946-47 season, mostly to Canada.

Development of the vast acreage of groves and orchards which have transformed our Nation into the world's fruit basket within a relatively short period of years is a remarkable accomplishment. True, there was commercial production of fruit when our Nation emerged from the Revolution. We were even exporting some fruit. In 1790, the United States exported 5,898 barrels of apples with a recorded value of $1.07 per barrel. A century ago, when the American Pomological Society was organized, we exported 45,300 barrels of apples, valued at $2.05 per barrel. Although we have been on a net export basis for at least a century and a half in the case of apples, we were on a net import basis up until relatively recently with respect to certain of the fruits which are produced in abundance in the United States today. We were on a net import basis with respect to oranges, dried prunes and raisins, until about 1900, and lemons until about 1930. Thus our great development has occurred during the century of service of the American Pomological Society, mostly within the last half of that century. During this relatively short period, this Nation has taken fruits which had grown in other lands for many centuries, improved the varieties, the methods of production and marketing, and made the United States the leader in the production of tree fruits.

World production of specified tree fruits by area and percentage distribution 1/

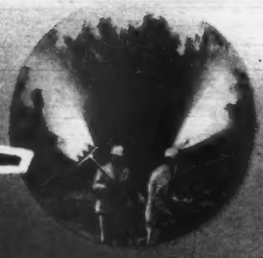
Area	Apples		Pears		Plums and Prunes		Peaches	
	Production	Percentage of total	Production	Percentage of total	Production	Percentage of total	Production	Percentage of total
	1,000 short tons	Percent	1,000 short tons	Percent	1,000 short tons	Percent	1,000 short tons	Percent
North America..	2,806	25.9	824	23.8	716	40.1	1,863	71.1
Europe.....	7,103	65.7	2,228	64.5	900	50.5	450	17.2
Asia.....	408	3.8	195	5.6	107	6.0	58	2.2
Africa.....	2/ 20	.2	2/ 15	.4	2/ 6	.3	2/ 2	.1
South America..	180	1.6	138	4.0	33	1.9	188	7.2
Oceania.....	300	2.8	57	1.7	22	1.2	59	2.2
Total.....	10,817	100.0	3,457	100.0	1,784	100.0	2,620	100.0
United States..	2,435	22.5	788	22.8	701	39.3	1,800	68.7

Area	Oranges and Tangerines		Grapefruit		Lemons		Total specified fruits	
	Production	Percentage of total	Production	Percentage of total	Production	Percentage of total	Production	Percentage of total
	1,000 short tons	Percent	1,000 short tons	Percent	1,000 short tons	Percent	1,000 short tons	Percent
North America..	4,829	50.9	2,253	97.2	526	47.6	13,817	43.7
Europe.....	1,241	13.1	-	-	400	36.2	12,322	39.0
Asia.....	914	9.6	29	1.2	28	2.5	1,739	5.5
Africa.....	621	6.5	30	1.3	19	1.7	713	2.3
South America..	1,804	19.0	6	.3	117	10.6	2,466	7.8
Oceania.....	88	.9	-	-	16	1.4	542	1.7
Total.....	9,497	100.0	2,318	100.0	1,106	100.0	31,599	100.0
United States..	4,453	46.9	3/ 2,225	96.0	526	47.6	12,928	40.9

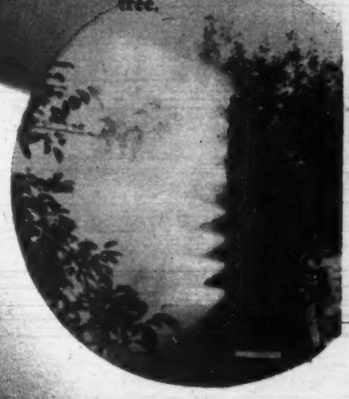
1/ Five-year average, apples and pears 1943-47; other fruits 1942-46.
2/ South Africa only.
3/ Includes 20,000 tons, Puerto Rico.

Compiled from official sources.
Office of Foreign Agricultural Relations, United States Department of Agriculture.

ANY Way you Spray—



"Friend" Spray Mast gives Speed—plus the Thoroughness of Gun Spraying—at Low Cost. A big labor-saver. For small trees, the two banks of 4 guns each can be mounted opposite. Hydraulic controls make it easy to cover every tree.



—with guns or brooms, or with a multiple-gun spray mast . . . using a sprayer that's truck-mounted, or one operated by a tractor . . .

—get this EXTRA GUARANTEE *of Dependability*

In one way, all four of the "Friend" Sprayers shown above are exactly alike. Each one has—

The Simplest Pump built for high pressure spraying . . . only ½ to ⅓ as many moving parts. That fact, alone, assures you of Unequalled Reliability.

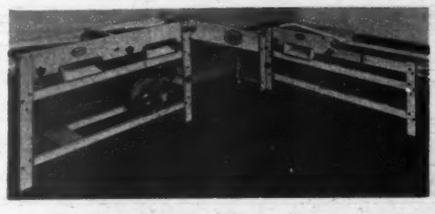
Besides the simpler design, this pump has *no wear at all on the cylinder walls* . . . never a cent of expense for replacing or re-lining worn cylinders. And *you have no bearing troubles,* because there isn't one plain sleeve bearing on a "Friend" Pump . . . only roller bearings, generously oversize. *Complete lubrication* . . . many growers have used "Friends" 5 years or more without renewing either the plungers or the packing.

Other fine features that you'll like: *"Instant-Clean" Valves* outside where you can get at them; *Instant Packing Adjustment* keeps each cylinder tight, and saves you most of the trouble and expense of pump repacking.

The Superior Design of the "Friend" Pump pays Big Dividends to the User. Growers who have worked different makes of sprayers side-by-side have found that their "Friends" maintain a steadier high pressure with less upkeep cost.

"Friend" Sprayers are built in all chassis styles, in a complete range of sizes. Write for the Friend Catalog.

FRIEND MFG. CO., Gasport, N. Y.
SPRAYERS—DUSTERS—FRUIT SIZERS & CLEANERS



SIZERS built like "Friend" Sprayers . . . with fewest parts, and extra strength at all critical points—assuring steadier service and less maintenance. Patented Friend features give your fruit better protection, preventing dragging or rolling. *A complete line,* for any requirements.

Easiest to Maintain in Working Order--
Fewest Moving Parts
"FRIEND"

Mr. Fruit Grower

Whatever You Grow...
Wherever You Grow it...

LOOK TO SHERWI
for YOUR INSECTICIDES
FUNGICIDES an

DDTOL 50% WETTABLE—A 50% DDT general-purpose wettable powder.

DDTOL 25% EMULSIFIABLE—A water-mixable solution containing 2 pounds DDT per gallon. Safe for use on plants.

ARSENATE OF LEAD—Light and fluffy, with good mixing properties for effective control of chewing insects.

CHLOR-MIX—A 40% Chlordan wettable powder for use in dusts or sprays against grasshoppers.

CHLOR-SPRA—A water-mixable concentrate containing 4 pounds Chlordan per gallon—for grasshopper control.

CHLOR-PHEEN 40% DUST—Contains 40% chlorinated camphene to blend into dusts for grasshopper control.

CHLOR-PHEEN 45% EMULSIFIABLE—For use in sprays for grasshopper control. Contains 4 pounds chlorinated camphene per gallon.

APHA-MITE—The newly developed answer to the aphid and mite problem. Contains diethyl p-nitrophenyl thiophosphate (variously called E-605 & AATP.)

KILLEX-100—100% hexaethyl tetraphosphate—a contact spray for aphids and mites.

DIMITE—A miticide with long residual effectiveness. Contains di (p-chlorophenyl) methyl carbinol.

DINITROL—40% dinitro-ortho-cresol powder for use with dormant oil sprays.

DINITRO-SOL—A water soluble, 20% sodium salt of dinitro-ortho-cresol for dormant spraying.

FREE-MULSION—A white, flowable, non-caustic, petroleum oil emulsion for dormant sprays.

SPRA-MULSION—An easily-mixed, petroleum oil emulsion for dormant sprays.

SUMMER MULSION—A flowable, white, oil emulsion for summer use.

KARBAM—An easily-wettable powder of 70% ferric dimethyl-dithio-carbamate for fruit disease control.

BASI-COP—A neutral, micro-fine, basic copper sulfate containing 52% copper. Suspends well.

SULFIX-SULFUR—A finely-ground, wettable sulfur with 96% of the particles less than 10 microns in size.

PRODUCTS OF
SHERWIN-WILLIAMS RESEARCH

SHERWIN-WILLIAMS AGRIC TU

The RIGHT Chemical for EVERY fruit-grower's EVERY need!

Check this comprehensive list of Sherwin-Williams Agricultural Chemicals against *your* needs. Whatever you grow, wherever you grow it, you'll find the RIGHT product for YOU! Behind every Agricultural Chemical in the S-W line are the full resources of the great Sherwin-Williams organization —the world's largest manufacturers of insecticides and fungicides. The S-W name is your assurance of the quality and uniformity you demand in the products that protect your crops!

Leaflets are available giving specific recommendations for individual crops. Ask your dealer for these leaflets, or write direct to: The Sherwin-Williams Co., Agricultural Chemicals Division, Cleveland 1, Ohio. (Export Division, Newark; N. J.)

MULSOID SULFUR—Exceptionally fine wettable sulfur, with particles 3 to 4 microns in size.

ZINC SULFATE—A spray-dried, 36% zinc to prevent arsenical injury and correct soil deficiencies.

SAFE-N-LEAD—Patented zinc compound useful in the prevention of arsenical injury to apple fruit and foliage.

SPRED-RITE—Liquid, fish oil spreader to increase the amount and uniformity of arsenate of lead deposits.

SPRALASTIC—A sticker and spreader for use with arsenate of lead.

STOP-DROP—A liquid formulation of naphthaleneacetic acid, effective in preventing premature drop of apples.

RICULTURAL CHEMICALS

Plan NOW for dormant spraying

With SHERWIN-WILLIAMS INSECTICIDES and FUNGICIDES

PRODUCTS OF SHERWIN-WILLIAMS RESEARCH

FOR EFFECTIVE CONTROL OF:

APHIDS...EUROPEAN RED MITE...SAN JOSE SCALE

DINITRO-SOL (water soluble)—20% sodium salt of dinitro-ortho-cresol for aphid eggs—when European red mite and San Jose scale are not a problem. Use as a ground spray to destroy over-wintering scab on apple leaves.

DINITROL—40% dinitro-ortho-cresol powder for use with a good dormant oil against European red mite and San Jose scale, as well as aphids.

FREE-MULSION—a white, flowable, non-caustic, petroleum oil emulsion for dormant sprays.

SPRA-MULSION—an easily-mixed, petroleum oil emulsion for dormant sprays.

These dormant spray materials—products of Sherwin-Williams research—give highly effective control of both insects—in the egg as well as in the adult stage—and of tree diseases. Ask your dealer for the Sherwin-Williams Spraying Guide—or write direct to The Sherwin-Williams Co., Agricultural Chemicals Division, Cleveland 1, Ohio. (Export Division, Newark, N. J.)

AGRICULTURAL CHEMICALS

PROGRESS IN APPLICATION

(*Continued from page* 24)

first mentioned in the Wenatchee *Daily World* in 1912. This method of application came into general use throughout the northwest about 1925 and to a lesser extent in a few other fruit growing sections.

The Liqui-duster, one of the first machines to use an air stream to carry the liquid to the trees, was marketed in 1925 by the Rex Company of Rochester, New York. This machine apparently was not effective in pest control, since it did not remain popular with the grower.

From 1930 to the present time was another period of evolution in spraying equipment and methods of application. Air blast sprayers, fog machines, vapor and mist machines, sprayer-dusters, spray masts and airplanes and helicopters equipped with spray and dust distributing apparatus were the outcome of the thoughts and ideas of the times.

The air blast machine, equipped with low pressure pumps and nozzles and large fans for creating an air blast came into use about 1940. These machines, capable of applying 2000 gallons per hour when used in conjunction with a supply wagon, have met the requirements of rapid coverage but are suitable only for large acreages.

One of the promising new pieces of equipment especially for the small to medium-sized orchard is the sprayer-duster. This machine consists of both a sprayer and a duster. The arrangement of spray nozzles around the dust distributor delivers a fine spray into the dust stream and wets the dust. The wet dust tends to stick better and does not drift as much as the dry dust. The machine is light in weight, and medium-sized bearing trees can be treated at the rate of 100 to 120 per hour.

Spray masts operated in conjunction with large-capacity, high-pressure pumps have received considerable attention the past few years. Since trees vary in size in different orchards, the masts giving the best results are those which have been custom built to fit the orchard.

The fog, vapor or mist machines represent the latest thought and ideas in methods of application. These machines, as the names indicate, break the liquid materials into very fine particles. High temperatures, atomizer types of nozzles, and revolving disks are some of the methods used to break up the spray materials. This type of equipment has not been used to any extent for the control of pests on fruit. They have been used successfully in the application of such highly toxic materials as DDT and BHC in concentrated form for control of mosquitoes and flies with as little as 1½ to 5 gallons per acre. Trial application indicates that they may be useful in the application of dormant oils.

The airplane was first used in 1921 by Houser in Ohio to distribute dust for the control of the Sphinx caterpillar. Since then, the airplane has been used extensively in the applications of dust to various crops such as cotton, potatoes, forest and citrus trees. Results on deciduous fruits with dusts for disease control by airplane have not been satisfactory, likely because of poor coverage and the need for timely applications.

Recently, concentrated sprays have been applied by plane. Sprays appear to have more promise than dusts on fruit trees. Applications of hormone materials in oil, in concentrated form, have been used successfully in delaying the drop of apples, and this method appears to be gaining in popularity.

No one can forecast in this age of engineering, chemistry and physics what the future control practices of pests on plants might be. It is within the realm of possibility that light rays, or sound waves, could replace chemicals in insect control; or that immunity in plants may be accomplished by injections. Until some other ways are developed, however, there is still much to be desired in equipment for the application of pest control materials. Timeliness and thoroughness of applications are two of the important requirements in disease and insect control. Lightweight machines, designed to produce a penetrating cloud of fine particle-sized materials and for rapid coverage, such as the vapor or mist machines and the sprayer-duster, appear to be the most promising developments at the present time. These machines are still in the experimental stage, and considerable work and time will be required before they are perfected. Progress will continue in the development of equipment and methods of application, and as a result, growers can be assured of better control of pests and increased yields of higher-quality fruits and vegetables.

PROGRAM
CENTENNIAL MEETING
AMERICAN POMOLOGICAL SOCIETY

HOTEL JEFFERSON, ST. LOUIS, FEB. 17-18-19, 1948

Tuesday

MORNING SESSION

9:30 **Greetings** . . . Fred Vollenweider, Pres., Mo. State Hort. Soc.
Frank Penstone, Pres., Ill. State Hort. Soc.

9:50 **Response** . . . Stanley Johnston, Pres., APS.

10:00 **Is Commercial Artificial Pollination Practical?** . . . R. M. Bullock, Wenatchee, Tree Fruit Expt. Station, Wenatchee, Wash.

There is great interest among orchardists regarding this subject. Mr. Bullock has carried on extensive experiments with various methods of artificial pollination.

10:45 **Common Problems of the Nurseryman and Fruit Grower** . . . Richard P. White, Exec. Sec'y, Am. Assoc. of Nurserymen, Washington, D.C.

11:30 **Discussion**

12:00 **Adjournment**

AFTERNOON SESSION

Joint session with the A.S.H.S., Dr. H. B. Tukey, Head, Dept. of Hort., Mich. State Coll., presiding.

1:30 **A Look at the Past** . . . Dr. M. J. Dorsey, U. of Ill., Urbana, Ill.

2:10 **The Present** . . . Dr. George M. Darrow, USDA, Beltsville, Md.

2:50 **A Glimpse into the Future** . . . Director E. F. Palmer, Vineland Exp. Station, Ont., Canada.

3:30 **Discussion**

4:00 **Adjournment**

Wednesday

MORNING SESSION

Joint session with the NAI, Henry W. Miller, Jr., Pres., presiding.

9:30 **This Old Occupation Makes a New Discovery About Itself** . . . Dr. Harry F. Eustace, V.P., Farm Market Relations, Inc., San Francisco, Cal.

Dr. Eustace was formerly Head of the Department of Horticulture, Michigan State College. He is an interesting and forceful speaker.

10:10 **Your Resources for Progress in Production and Handling** . . , Dr. John R. Magness, USDA, Beltsville, Md.

10:50 **Our Resources as Sellers** . . . John Chandler, Sec'y, N.A.I., Sterling Junction, Mass.

John Chandler is not only a successful apple grower, but has also had wide experience in the problem of promoting the sale and use of apples.

11:30 **Discussion**

The three speakers and the presiding officer will act as a panel.

12:00 **Adjournment**

AFTERNOON SESSION

Joint session with the National Peach Council, Sheldon W. Funk, Pres., presiding. Theme: Teamwork Between Growers and Distributors.

1:30 **Teamwork Between Retailers and Growers** . . . Joseph B. Hall, Pres., The Kroger Company.

2:10 **Teamwork by the Wholesalers** . . . Clarence W. Kitchen, Exec. Sec'y, United Fresh Fruit and Vegetable Association.

Mr. Kitchen will tell of the Merchandising Institute, a major development of this postwar world.

2:50 **The Growers' Responsibilities in this Industry Teamwork** . . . John B. Peters, Aspers, Pa.

Mr. Peters's penetrating, thoughtful approach to industry problems has earned for him industry-wide recognition.

3:30 **Discussion**

4:00 **Adjournment**

BANQUET PROGRAM

WEDNESDAY EVENING 6:30 p.m.

Toastmaster: T. J. Talbert, Head, Dept. of Hort., U. of Mo., Past Pres., APS. An excellent program will include musical entertainment, the presentation of the APS Wilder medals and an address by a nationally known man associated with the fruit industry.

Thursday

MORNING SESSION

Topic: **Fruit Growing in Other Countries.**

9:30 **Fruit Growing in Mexico** . . . H. W. Guengerich, Stark Bros. Nurseries, Louisiana, Mo.

10:10 **Fruit Growing in Canada** . . . M. B. Davis, Dominion Horticulturist, Ottawa, Canada.

10:50 **The Fruit Growing and Marketing Situation in Europe** . . . F. A. Motz, U. S. Agricultural Attache, Vienna, Austria.

11:30 **Discussion**

12:00 **Adjournment**

AFTERNOON SESSION

1:30 **Trends in Fruit Varieties** . . . John T. Bregger, Clemson, S.C.

2:10 **The American Pomological Society's Program for the Fruit Hobbyist** . . . Dr. W. F. Pickett, Head, Dept. of Hort., Kans. State Coll., Manhattan, Kans.

2:30 **American Pomological Society Business Session**
Report of the Editor, Fruit Varieties and Horticultural Digest . . . Dr. W. P. Judkins, Wooster, O.
Reports of Committees, Election of Officers, Adjournment.

John BEAN LEADS THE WAY TO BETTE LOWER COST SPRAYING

1883

With the introduction of the John BEAN spray pump, two men could not spray one acre of trees in a day.

1900

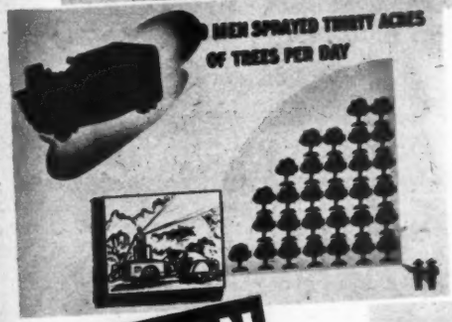
By 1900, powered models had tripled the mark that two men could do in a day.

1910

Introduction of the John BEAN Giant Triplex pump increased output so that two men could now spray 6 acres a day.

1928

The development of the *Super Giant* Triplex Pump by John BEAN cut spraying time by another 66⅔%, lowering costs and improving coverage at the same time.

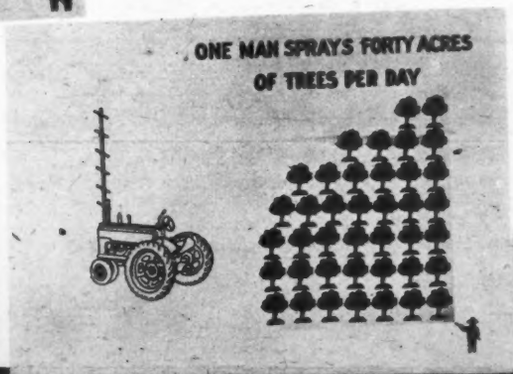


1933

The John BEAN Royal pump introduced modern high pressure spraying. Now two men could spray 30 acres of mature trees in a day.

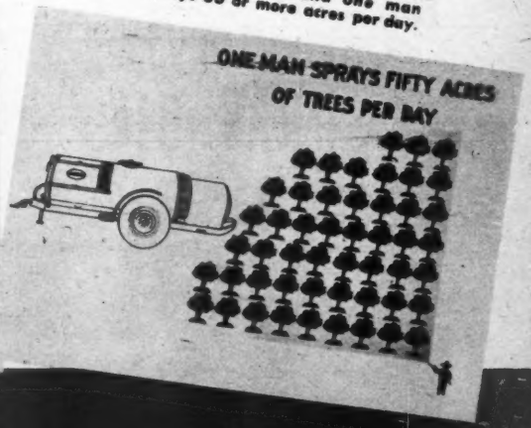
TODAY!

With automatic spray masts, pioneered and developed by John BEAN engineers, one man now sprays 40 or more acres per day.



TODAY!

With the Speed Sprayer, a new method of applying material was introduced and one man sprays 50 or more acres per day.



John BEAN SPRAYERS FIT THE ORCHARD

For more than half a century John BEAN has paced in the development of spraying equipment to constantly provide better crop protection with less labor, at lower cost. Each new development illustrated here marked a new step forward in the progress of spraying. Now, the 1948 line of John BEAN high pressure powered sprayers brings coverage and economy to a new peak. With either the Speed Sprayer, or with new automatic *Spray Masts* (depending upon your individual orchard problems) one man covers 40 or more acres of trees per day.

Profits are increased because less labor is required.

Profits are increased because less equipment is needed.

Profits are increased by fast, thorough protection—you can protect your trees when they *need* it, when even a few hours delay might result in crop loss.

See the new, larger John BEAN line at your dealers. New models! New Features! More than ever the 1948 John BEAN high pressure sprayers *fit the orchard*.

Mr. John Bean, photographed before the turn of the century, with one of the original John BEAN sprayers which started the spraying revolution and led the way to better, faster, cheaper coverage.

John BEAN

Division Food Machinery Corporation

LANSING, MICHIGAN — 104 WEST JULIAN ST.

DEPARTMENT 29 — SAN JOSE, CALIFORNIA

M. A. Blake—1882-1947

MAURICE ADIN BLAKE, one of America's leading horticulturists, passed away on December 14, 1947, at the age of 65.

Born in a farming community in New England, he was graduated from (then) Massachusetts Agricultural College in 1904, and later entered the service of Rutgers College and New Jersey State Agricultural Experiment Station. He was immediately faced with the problem of restoring the peach industry in New Jersey and in a few years New Jersey again had a place, with improved methods of soil management, fertilizer practices, pruning, disease and insect control, packing and marketing.

He realized the need for better varieties, and in 1914 breeding of peaches began. More than thirty varieties of peaches have been named and introduced. His latest program was a search for a variety to supersede Elberta and to follow that variety. In appreciation of this work, the Wilder medal of the American Pomological Society was awarded to the institution in 1926.

He was also engaged in apple breeding pointing particularly to commercial summer apples for South Jersey.

Professor Blake was a man with keen powers of observation. He was one of the leading authorities on varieties of apples and peaches. He was of the old school of horticulturists, and his aim was to grow good plants.

While his scientific training was not comparable with that of the modern physiologist working with fruits, he was able to interpret the work of the younger men and put it into terms of good orchard management. Much in demand as a lecturer, he had just returned to his home after a week of several talks given in New England when he passed away.

Professor Blake was widowed in 1940 and left no children. He was, however, much wrapped up in his nieces. His avocations were the athletic teams of Rutgers, and, in his later years, the growing of gladiolus. In his early days he liked to fish, but even this gave way to his mission in life—better horticulture.

He was a member of the American Society for Horticultural Science from its founding and was president in 1916. He was also active in the affairs of the American Pomological Society. He gave a great deal of attention to the affairs of the New Jersey State Horticultural Society, of which he was president in 1919 and 1920, and for which he edited (and wrote much for) the Horticultural News. In 1926 he was cited by the New Jersey State Board of Agriculture for distinguished service to Agriculture. In 1931, Rutgers University conferred upon him the honorary degree of Master of Science, in appreciation of 25 years of service at the institution for "worthy contributions to the world of science and to the economic life of the state."

Men trained under him occupy prominent positions in horticulture throughout the country, and so the influence of his teaching will live on.—*C.H.C.*

CALENDAR OF COMING MEETINGS AND EXHIBITS

Jan. 5-6—Maryland State Horticultural Society meeting, Hotel Alexander, Hagerstown.—A. F. Vierheller, Sec'y.

Jan. 6-7—Massachusetts Fruit Growers' Association annual meeting, Worcester. —W. D. Weeks, Research Asst.

Jan. 8-9—Utah State Horticultural Society annual convention, Hotel Utah, Salt Lake City.—A. Stark, Sec'y.

Jan. 9-10—Western Colorado Horticultural Society annual meeting, Mesa College, Grand Junction.

Jan. 12-14—State Horticultural Association of Pennsylvania annual meeting, Farm Show Bldg., Harrisburg.—J. U. Reuf, Sec'y.

Jan. 14-16—New York State Horticultural Society winter meeting for western New York, Rochester.—D. M. Dalrymple, Sec'y.

Jan. 20-22—New Hampshire Horticultural Society annual meeting, Hotel Carpenter, Manchester.—D. R. Batchelder, Sec'y.

(*Continued on page* 58)

PROGRESS IN ORGANIZATION

(*Continued from page* 24)

Since then, other divisions of the fruit growing job have come: seasonal labor, community packing houses, storages, the processors, sales agencies. Someone described them recently as "the water-tight compartments of the produce industry." Every one of these increased the distance between grower and consumer. Each lessened the unified control — soil to consumer — that Grandfather held.

Grandfather's place is still producing fruit. It is a company now. The fruit is harvested by seasonal aliens, hauled by contract truckers to a community packing house, stored in a commercial storage, sold by a sales agency, sent out to processors and wholesalers and retailers over several continents. All is neatly done for it is a well-managed place, *but* there is no over-all plan or co-operation—soil to consumer—and consideration of the consumer is remote indeed.

To establish the point, "manufacturing" a fruit (bringing it from soil to consumer) is one job, just as manufacturing an automobile is one job—from steel mill through a half-dozen plants and assemblies right on to the consumer. Hundreds of men work on the auto, at many different places, but there must be a single control, organizing these several steps. Otherwise, the carburetor doesn't fit the motor, the motor doesn't fit the frame, nor the frame fit the body, and the auto is an unworkable joke. Picture the auto if the carburetor makers each used their own preferences instead of the blueprint, and the motor and body makers likewise. A "Rube Goldberg" machine, a misfitting monstrosity, would result.

The evidence says that too frequently in agriculture we are putting before the consumer the ill-fitting, unworkable product which is the only possible result of using many men at different places on a product, but without over-all organization—a blueprint and management. That is confusion. One would best describe this type of management as shiftless. The reward is in kind and inevitable.

Certain it is that agriculture is very confused as to organization. Most farmers (and fruit men) assume that by joining one or several farm associations they are becoming organized. True in part. These different groupings are very necessary, mostly. But each applies to specific jobs—business education, political action, merchandising, etc. Others, such as the Farm Bureau and The Grange, apply only to the producer, who is but one link in the chain. Strong links are essential. But equally essential is connecting these links into the complete chain, solidly, smoothly.

We have the links tolerably well-forged. Fruit growers seem well ahead of agriculture's rank-and-file on organization. We should be. The California Fruit Growers' Exchange has worked out the pattern from 40 years' experience. Almost within the past decade, growers of apples, cherries and peaches have banded together, have set up their own market-promotion and intra-industry work, and have moved on to join effectively with the retailers, and occasionally with the processors. They have proved the benefits from connecting the links solidly. They have proved it is not difficult and that the machinery is simple and the blueprint at hand. The wholesalers, through Clarence Kitchen and the United Association, are "organizing" with the retailers for better handling and sale of more produce. We are moving.

But we still have a long way to go before we can say to the consumer, "This is the product you wish, in the price-range you can afford." That can come only when growers, labor, distributors, processors, package-makers, transportation, bankers, government and research sit down together and say, "How can we, by working closely together, do this job better?" That has never been done.

It is not by coincidence that a century ago agriculture was the nation's most esteemed industry, while during the past third of a century (except for abnormal war years) the "plight of agriculture" has been a constant, serious national problem and the treasury has poured into agriculture literally billions of dollars in subsidies, supports and grants. In those days, the job was organized under a single management that answered directly to the consumer. We have lost that. We are moving ahead in organization, but until we see more clearly what organization really is, we can only stumble ahead half-heartedly, losing much time and effort in going up blind alleys. Shall we think this through?

One of the jobs for the Diesel D4 on the Walter Miller Farm, Benton Harbor, Michigan, is pulling the 500-gallon automatic sprayer—wherever and whenever the orchard needs spraying.

"WE USE BOTH ENDS OF OUR DIESEL D4"

Walter Miller Farm, Benton Harbor, Michigan

There are 40 acres of apples and 15 acres of pears on the Walter Miller Farm, Benton Harbor, Michigan, to be sprayed on time. There is heavy field work to be done. And there is land to clear and some contouring work to be done. Those are reasons why this grower has a "Caterpillar" Diesel D4 Tractor and a bulldozer to work with it.

"The D4 was a great help this spring (1947), as it rained a lot and we could not use a wheel tractor", reports farm manager, Harry A. Peterson. "The D4 pulled our 500-gallon automatic sprayer with the sprayer's axles dragging in mud.

"We also have a bulldozer for the D4 and are going to clear some land and do some contour work. We have about 70 acres in contoured orchard. The D4 is trouble-free and can go anywhere."

It meets and beats every adverse traction condition on the place—from soft boggy sloughs to loose sandy knolls—delivers dependable pull or push in the pinches and on the hard-to-do jobs where performance multiplies profits.

"Caterpillar" builds Diesel tractors for year after year of faithful service. "Caterpillar" Diesels that have done what equals 20 years of work for the average fruitgrower, are still going strong!

CATERPILLAR TRACTOR CO., PEORIA, ILL.

CATERPILLAR DIESEL

REG. U. S. PAT. OFF.

ENGINES • TRACTORS • MOTOR GRADERS • EARTHMOVING EQUIPMENT

PROGRESS IN CULTURE

(*Continued from page 25*)

organic matter began to be more universally realized. Meanwhile, other series of experiments were showing that when sufficient amounts of nitrogen were used to feed both the tree and the sod, orchards in sod were vigorous and productive. Erosion was greatly reduced, the organic matter was retained or increased, and moisture conditions were found to be favorable for tree growth.

The next step was toward a so-called sod-mulch system. The grass grown between the rows was cut and placed about the tree as a mulch. In most cases it was found necessary to add supplementary material, such as straw or hay, to maintain an adequate mulch. Mulches were used early in the present century, but their value was not fully demonstrated until much later. The effect upon the nitrifying bacteria of adding large amounts of cellulose, resulting in a temporary nitrogen shortage, was not understood at that time, so the best results from mulching were not obtained.

During the last 20 years the trend has been toward sods, well-fertilized with nitrogen. In many sections mulching with straw or other organic wastes has been more popular than sod culture alone. Cultivated apple orchards are now seldom seen. The uses of much larger amounts of nitrogen fertilizers than was formerly considered practical has accompanied the turn to sod culture. Where mulches are used, however, much less nitrogen has been found necessary, once the mulch is established.

The use of inorganic fertilizers on orchard trees has followed a similarly changing trend. Early experimental work, dating back to 50 years ago, showed little or no response to elements other than nitrogen, so far as the trees were concerned. During the last 15 years, especially in the areas of the country that have been under intensive culture for a long period, deficiencies of potash, magnesium and some of the minor elements (micronutrients), such as zinc, manganese, and boron, have appeared. In many instances where surface feeding crops show starvation for these elements, fruit trees are not yet affected. It is likely that eventually the trees also will need an augmented supply of some of these elements. Complete fertilizers for sods and covers are now being used where their need is indicated.

A trend away from intensive cultivation of peach and other stone fruit trees likewise has developed during the last decade. This change has not been so wide-spread as in the case of apples, but in many localities sods and mulches are being used successfully with stone fruits, providing sufficient nitrogen is supplied to meet the needs of the tree over and above that utilized by the grass.

The most common cultural practice followed generally for peaches, however, is a cultivation and cover crop system. The intensive cultivation formerly believed necessary has been replaced by a short period of discing, between the working-in of a winter cover of wheat or rye early in the spring and the planting of a summer cover, such as soy beans or cow peas, in the early summer. This summer cover is worked into the soil soon after harvest and the winter cover sown at once.

Terracing and contour planting of both apple and peach orchards on erosive sites have been important developments largely during the last 15 years. These practices have made possible a more efficient use of the normal rainfall and have reduced the run-off of surface water and the resulting erosion. Combined with sods and mulches, terracing and con-

(*Continued on page 47*)

PESTICIDES

(*Continued from page* 25)

much more active among manufacturers, and the tastes of the consumer became more critical.

The scientists knew that organic chemistry offered a practically countless number of chemical substances which could be "built" to suit one's needs. It was, therefore, only logical that we should be led to organic chemistry for better chemicals.

The results of about twenty years' research in the organic field have given us quite an imposing list of new pesticides: DDT, BHC, Chlordane, Toxaphene, HETP, AATP, ANTU and 2,4-D. Also, out of these researches have come new methods of application: improved spray techniques and machines, better dusters, aerosol method, etc.

Today, everyone interested in pesticides, from the manufacturer to the consumer, is very much aware of the rapid pace of development, and many are looking forward to a somewhat confused future. Actually, however, there is now no need for apprehension for we *know* that future developments will bring many more different and complex chemicals. These chemicals will of necessity be better adapted to the changing needs of a changing agriculture. They will be more effective and easier to use, as well as more economical.

CULTURE

(*Continued from page* 46)

tour planting have contributed greatly to the conservation of the soil which was being depleted of its natural plant food and, indeed, carried away bodily by excessive erosion where cultivation was practiced. The compaction of the soil and decreased aeration, resulting in poor penetration of rainfall and unfavorable conditions for root growth, so common in cultivated orchards, is largely avoided by sod culture.

If a prediction as to future trends in cultural practices might be permitted, it appears likely that the use of sods and mulches will increase as their value becomes even more widely realized. Mulching has received a temporary set-back by the scarcity and high price of straw, as a result of the development of the combine and other factors. Some orchardists are beginning to grow grasses and legumes on land outside the orchard for supplementary mulching material and this is a practice that is likely to increase greatly. By heavily fertilizing the crop grown for the mulch a high yield may be secured that is rich in plant foods that are readily

(*Continued on page* 48)

CULTURE

(*Continued from page 47*)

available to the trees as the mulch decays.

Another practice likely to be developed in the future is the application of certain fertilizers as sprays applied to the leaves of trees. At present zinc and manganese compounds are being sprayed on trees to overcome soil deficiencies of these elements. Experiments are underway attempting to develop nitrogen foliage applications, using forms of nitrogen that appear to be absorbed through the leaves.

It is likely that before many years we will see the development of new types of fertilizers for application to the soil. Organic compounds of phosphorus, which are not readily fixed in the soil, is an example of this development.

VARIETIES

(*Continued from page 25*)

Probably the greatest advance in apple varieties in the last 30 years has been in finding and introducing color sports. Red sports of Rome, Delicious, Stayman, Jonathan and others have given the apple industry many finer appearing varieties.

In fruit breeding, though yields always have been and should be considered, many other qualities have had to be considered. Fruit breeding work has proved its value. Those in the work are proud of the record of the new varieties of apples, peaches, plums, grapes, raspberries, strawberries, and the blueberries. Ten years hence we will be still prouder of their record and of many other new varieties.

Fruit breeders are now planning for the future. We have good strawberries now. We know we can produce still finer ones: hardy in plant to extend the limits of cultivation and to eliminate the need for mulching; hardy in flower to eliminate frost hazards; firm in texture to lessen the loss by decay in the field and in the market; high in vitamin C to make it possible for the home garden to provide this necessary food element to growing children and adults; disease resistant to stabilize and make strawberry growing less hazardous and to make it possible to grow finer-flavored varieties where diseases now limit their production; larger-fruited varieties to cheapen the cost of production. As we progress in strawberry breeding or in any fruit breeding our horizons broaden.

Fruit breeders have already obtained much of the information necessary for a sound and rapid expansion of their programs. They can feel confident of returning manyfold the cost of any well-planned and well-executed breeding program. Tetraploid apples ("giant" sports, colchicine produced variants, selected seedlings, or species hybrids) should make possible far larger apples, especially for northern regions. Late-winter, high-flavored, firm-fruited selections are already being tested. Varieties with disease resistance, short rest period requirements, and early and annual bearing are possible if we will breed them. Certain highly blight-resistant pears are now available from New England and Minnesota to Florida, but they are lacking in the highest dessert quality. Blight-resistant pears can be of the finest flavor if we will breed them.

We may think we have fine peaches in this country. We do. But a carefully planned breeding program could improve the usefulness of this as well as other fruits by many times. We are just now introducing non-browning peaches, such as Dixigem and Southland. We should have them for every section and over a long fruiting season, especially for frozen food lockers. There are seedling peaches that survive in Iowa and Minnesota. We can have the best in cold resistant varieties. There is brown-rot resistance, bacterial-spot resistance, bud hardiness, firm flesh, finer flavor in the peach. We should have these qualities in varieties.

Blackberries can be thornless, resistant to orange and cane rust, resistant to double blossom disease, and small-seeded if we wish hard enough and translate the wish into hard work. Though we have many new tools to use in breeding, we cannot believe that they have all been discovered. We have faith that each year will bring us new tools that will make the work easier, more effective and more useful.

STORAGE

(*Continued from page 25*)

of field heat. Most of the early-refrigerated storages for fruit were in the metropolitan centers. The trend in recent years has been to bring the storage closer to the farm itself.

It was soon found after the advent of refrigerated fruit storage that cold, alone, was not enough. Not only did high relative humidities have to be maintained, but the temperature of storage for certain varieties had to be carefully defined. Some varieties (especially in certain localities) have to be stored at tem-

(*Continued on page 55*)

WILDER MEDAL

(*Continued from page* 19)

varieties at the Boston meeting of the APS. He originated several new varieties of pears and introduced the Beurre d' Anjou from Europe in 1844.

In the last years of his life he tackled the problem of nomenclature of fruits, a difficult task, with varieties appearing on all sides, and with names, synonyms and mistaken identity rampant. The APS Code of Nomenclature was the result, and it still is, with revision, the final word in codes of nomenclature for fruits in America.

But how did the Wilder Medal come to be? What does it stand for? To begin with, great displays of fruit were held in connection with the APS biennial sessions three-quarters of a century ago, and prizes were given to the various exhibits. They evidently ran to considerable sums and were frequently donated. For example, in the call for the meeting of 1871 at Richmond, Va., announcement was made of 24 prizes offered voluntarily by individuals, firms and societies for fruits and fruit collections, ranging all the way from a subscription to the "Rural Carolinian" by a firm in Charleston, S.C., to $150 offered by the Virginia Pomological and Horticultural Society.

The monies and awards finally became too difficult to handle under the voluntary cash and premium award plan. Evidently a number of the premiums were diverted back to the Society; others were not awarded. Accordingly, a committee was appointed comprising the Honorable John B. Whitehead of Virginia, P. J. Berckmans of Georgia, and Thomas P. James of Massachusetts, to consider the possibility of the Society giving a standard medal and to procure a die for this purpose to be financed by such monies and other sums as were acquired by donations. It was further decreed "that the APS shall at no time award money premiums for the exhibition of fruit during any of its sessions. It is understood, however, that this action shall not interfere with awarding the Wilder Medal to meritorious objects." Thus, the Wilder Medal was instituted, and in his will, President Wilder bequeathed $5,000 to be set aside for Wilder Medals.

But for what was the Wilder Medal awarded? Who received it? The first medals were given at the Boston meeting in 1873, awarded by committees set up for the several fruits and a committee on "objects

(*Continued on page* 51)

WILDER MEDAL

(*Continued from page* 50)

of special merit." At the next session, held in Chicago in 1875, a regular committee was appointed on award of Wilder Medals, and since then this procedure has been followed.

Since Colonel Wilder made no rules to cover the awarding of medals, the Society has established four classes for awards: 1. Promising new fruits; 2. Collections of fruits illustrating the horticultural advantages of a given section; 3. Seedling fruits which, even though they may not have much value in themselves, show possibilities of securing fruits of extreme hardiness, high flavor or other qualities by judicious hybridizing; and 4. Individuals who distinguished themselves by work in some line of horticulture.

The medal was given generously in the early days, 43 being awarded in 1873. The recipients represented 18 states and the Province of Ontario, Canada.

As the years passed, the number of awards decreased, and the interest shifted. The pear was the popular fruit in the 1870's. The grape followed. The plum appeared in the late '90s and the apple took possession from 1907 on.

In looking through the list of names of exhibitors who received awards, one finds such illustrious names as Marshall P. Wilder and C. M. Hovey of Massachusetts; Patrick Barry, T. S. Hubbard and H. E. Hooker of New York; Peter M. Gideon of Minnesota; L. H. Bailey, Jr. of Michigan; P. J. Berckmans of Georgia; T. V. Munson of Texas; Luther Burbank of California; and C. E. Patton of Iowa. But, little by little, the interest in exhibits and collections waned. In 1909 only 10 awards were made for this purpose; in 1921, only four awards; and from 1941 to 1947, only one award.

Awards to individual fruits have been few, totaling only 20 silver and four bronze out of a total of 195 silver and 65 bronze awards that have been made as follows: In 1877, Welcome grape, Brighton grape; 1897, Campbell Early grape, McPike grape; 1899, Charlton grape; 1909, King grape; 1911, Lou Gim Gong orange. All these were silver. In 1913, Goudian orange (silver), Branch apple (bronze); 1915, Hubbard grape; 1917, Turley apple; 1919, Golden Delicious apple; all silver. In 1920, Temple orange (bronze); 1922, Rainier apple; 1923, Lobo apple, Cortland apple; 1926, Stark-

(*Continued on page* 52)

WILDER MEDAL

(*Continued from page* 51)

ing apple; 1927, Latham raspberry, Sheridan grape, Melba apple (silver), and June raspberry (bronze). In 1929, Young dewberry, Howard 17 (Premier) strawberry (silver); and in 1939, USDA 814 pecan (bronze).

Awards to individuals also have been few—only 13, all silver, as follows: 1873, Marshall P. Wilder, for founding and building the Society; Patrick Barry; Thomas P. James, for faithful service as treasurer for 27 years; John J. Thomas, for designing the Wilder medal. In 1881, Robert Manning; 1885, W. J. Beal; 1899, Roland Morrill, for an illustrated report of successful peach growing; 1911, William Armstrong; 1921, L. H. Bailey, for notable contributions to horticulture and to the work of the society; 1929, U. P. Hedrick, for the authorship of a series of books on fruits and vegetables and for producing new fruits by breeding; W. T. Macoun, for originating hardy apples and other fruits; and N. E. Hansen, for exploring foreign countries for fruits and flowering plants and for breeding new fruits and ornamentals. In 1947, Maurice A. Blake, for the origination of meritorious varieties of peaches.

Now, at the completion of 75 years of awards (1873 to 1947, inclusive) and in anticipation of the 100th anniversary meeting of the APS in St. Louis in February, it is fitting to bring the list up to date by naming the awards from 1932 to 1947, inclusive, covering 22 sessions of the Society over a 25-year period. They are as follows:

1923, Silver Medals: Lobo apples, originated and exhibited by the Central Experimental Farms, Ottawa, Canada; Cortland apple, originated and exhibited by the New York State Agricultural Experiment Station, Geneva, N.Y.

1926, Silver Medals: New York State Agricultural Station, Geneva, N.Y., for a collection of seedlings of known parentage developed and exhibited by that station, the collection including the Cortland, Orleans, Sweet Delicious and Newfane apples and the Keuka, Urbana, Sheridan and Golden Muscat grapes. New Jersey Agricultural Experiment Station, New Brunswick, N.J., for a collection of seedling peaches of known parentage developed at the station, including Cumberland, Primrose, Golden Jubilee, Sunbeam, Pioneer, and several unnamed seedlings submitted for examination during

(*Continued on page* 53)

WILDER MEDAL

(*Continued from page* 52)

the fruiting season. Stark Brothers Nurseries and Orchards Company Louisiana, Mo., for the Starking apple.

1927, Silver Medals: University of Minnesota Fruit Breeding Farm for noteworthy achievement in breeding hardy fruits of which 32 seedlings have been named and introduced out of a total number of 80,500 seedlings tested and represented at the meeting by 69 plates of 39 seedling apples. University of Minnesota Fruit Breeding Farm for the Latham Raspberry recognized as a standard variety in the very cold parts of this country; New York State Agricultural Experiment Station, Geneva, N.Y., for the Sheridan grape which promises to be a worthy competitor of Concord; and Central Experimental Farm, Ottawa, Canada, for the Melba apple, an early ripening seedling of McIntosh especially adapted to Canada and the northern part of the United States.

Bronze Medal: The New York State Agricultural Experiment Station for the June raspberry, recognized as one of the best early red raspberries.

1929, Silver Medals: Professor N. E. Hansen of Brookings, South Dakota, for exploring foreign countries for fruits and flowering plants useful in the United States, and for breeding and developing new fruits and ornamental plants particularly adapted to the great plain sections of North America. Dr. U. P. Hedrick of Geneva, N.Y., for authorship of the series of books on the fruits and vegetables of New York, and other horticultural books, and for producing many new fruits in plant breeding work. Professor W. T. Macoun, Ottawa, Canada, for originating many varieties of hardy apples and other fruits particularly adapted to the very cold sections of Canada and the United States. Everett C. Howard, Belchertown, Mass., for the Howard 17 or Premier strawberry, and B. M. Young, Morgan City, La., for the Young dewberry.

1930, Silver Medals: Iowa Agricultural Experiment Station, Ames, Iowa, for an exhibit of 40 plates of seedling apples, of which five are named: Sharon, Monona, Hawkeye, Ames, and Secor. Dominion Experiment Station, Kentville, Nova Scotia, for a collection of 89 plates of very fine apples of named varieties, and Central Experiment Farms, Ottawa, Canada, for an exhibit of 30 named varieties of apple seedlings devel-

(*Continued on page* 63)

WILDER TO JOHNSTON

(*Continued from page* 21)

moval. Much credit for this work goes to Dr. W. A. Ruth of the Department of Horticulture, of the University of Illinois.

In the summer of 1934, the National Apple Institute was formed to promote the sale and consumption of apples, and it, too, was a prodigy of the American Pomological Society. The first meeting was called by Prof. B. S. Pickett, then president of the Society, Paul Stark and Dr. H. E. Barnard, who did the initial work in creating the Institute. The Society contributed two hundred dollars to the fund that put the National Apple Institute on its feet.

The American Pomological Society has never neglected its variety work, and it is still the clearing house for information concerning varieties grown in the United States and Canada. A new committee was formed in 1945, known as "The Variety Appraisal Committee" which serves in a capacity similar to the old General Fruit Committee of Downing's day. The committee collects information about varieties from all parts of the country and from time to time lists those varieties suitable to various climates and environments. In 1946, the Society began publishing a quarterly bulletin entitled, "Fruit Varieties and Horticultural Digest." This publication provides a means for disseminating timely notes on varieties as well as discussions of cultural practices and marketing problems. It is free to members of the APS.

Like an echo from the past, the closing remarks of President Wilder's 1875 address come back to us:

"The fruit culture of America has surprised the world. Like the genius and invention which characterize this nation in other arts, it has taken its stand as the forerunner and herald of a new era in the history of pomology. Yet, gentlemen, we have scarcely entered on the vast field which we are to occupy. We have but just seen the dawning light of our science which is yet to illumine this great Western World. . . . When we consider that our Society was the first national institution of its kind, and that its example has been followed in so many other nations, we may take it for granted that the methods which we have used are the best for the acquisition and the diffusion of knowledge on this subject."

With so many achievements to its credit, the American Pomological Society can, with confidence, hope,

(*Continued on page* 59)

STORAGE

(*Continued from page* 48)

peratures above 36° F. to avoid troubles like internal browning, soft scald and soggy breakdown.

Soon it was found that not only did the storage operator have to concern himself with temperature and humidity but with the atmosphere in the room. It was discovered, about 1918, that apples gave off sufficient volatile materials (fruit esters) that certain varieties could be actually "burned" by these accumulated gases. Oiled paper was developed to control this trouble called "scald." A more recent approach has been to purify the atmosphere of these gases by absorbing them on activated charcoal in a centralized air purifying unit. Another approach to the scald disease has been to "immunize" the fruit with carbon dioxide treatments.

Another aspect of the atmosphere that gained attention around 1920 was the regulation of amounts of oxygen and carbon dioxide in apple and pear storages. This gave rise to the technique of controlled atmosphere storage which will double the storage life of some varieties. This procedure revolutionized the storage of apples in England and has some special applications in this country, such as with McIntosh in New York and New England. Still another aspect of atmosphere control that gained recognition about ten years ago, was the presence of ethylene in the fruit storage. Various fruits were found to give off sufficient ethylene as they ripen to ripen up other less ripe fruit in the room. This discovery gave rise to segregation of ripe lots of fruit or to removing the ethylene by means of air purification.

Not only the storage of fruit, but also the refrigerated transport of fruit has made progress. Some might question the amount of progress in this connection because the ice refrigerator car in use in 1900 is still the standard equipment for transport of fruit. On the other hand, great progress has been made in precooling fruits prior to distant shipment in iced cars. Another development has been the innovation of the "fan" car which circulates cold air through the ice bunker and the fruit. The economics of fruit shipment has held back the development of mechanically refrigerated cars for transport of fruit up to this time.

MEMORIES

(*Continued from page* 28)

sent any professional class; there were plain fruit growers, businessmen interested in orchards and gardens, teachers and investigators, nurserymen, all in the cross section of common society, some of them leaders in public enterprises, and others who had made names for themselves in special fields. There was an attitude of eagerness to learn, rather than to present papers to call attention to personal investigations. The field of discussion was the "science of pomology," as phrased by the Society, yet the meetings were not scientific in the current sense.

My most vivid recollections of the American Pomological Society are of the great meetings in Grand Rapids, Michigan, in 1885. Marshall P. Wilder was still president, although unable to be present at Grand Rapids, and Benjamin G. Smith of Cambridge, Massachusetts, was treasurer. Patrick Barry, of Ellwanger and Barry nurseries, was vice president and very active at the meetings. But the immediate organizer and energizer of the convention was its new secretary, Charles W. Garfield of Grand Rapids, who profited by the work of his devoted predecessor in that office, W. J. Beal of the Michigan Agricultural College. Garfield was a remarkable man. He was businessman, farmer, fruit grower, forester, activator in all forward movements in church and community, state legislator, member of state boards, early graduate of the Michigan Agricultural College, and one of the first separate teachers of horticulture in the country. His years were 1848 to 1934.

Life membership of the American Pomological Society at that period was about 240 and was favorably represented at the convention. Biennial members and the interested public added to the attendance, and the city of Grand Rapids cooperated to the full. This convention may be taken as a turning point in the history of the old Society. Beal had canvassed the membership for suggestions on program. President Wilder sent an address replete with accomplishments of the Society and with notable appreciations of well-known deceased members. It was stated in the secretary's prefatory notes that "less time was devoted to the discussion of varieties in detail, and more to the consideration of questions connected with management in horticultural operations, and means of overcoming difficulties." President Angell of the State University delivered the opening address; C. E. Bessey gave an illustrated evening lecture on injurious fungi; J. C.

(*Continued on page* 59)

LIBERTY HYDE BAILEY

(*Continued from page 22*)

his appointed task. He "retired" as dean of the Cornell College of Agriculture in 1913 to pursue his first love, botany. After a period of writing, he began the study of palm trees. Some 700 different species of the palm were known at that time. The number has now increased to 1100. Dr. Bailey estimates that there are perhaps 4,000 in existence.

He was graduated from Michigan State College, the first agricultural college in the country, when he was 24. He was a tall, good-looking youth who had a flair for writing. The year Bailey was graduated from Michigan, Dr. Asa Gray of Harvard was looking for an assistant, and Bailey got the post. The two years he spent with the famous Harvard botanist were to determine his future career. After them he returned to his alma mater, and there organized the first Department of Horticulture in a college in this country. He stayed at Michigan for four years and then moved on to Cornell for his major life work.

The 25 years that Bailey was active at Cornell are memorable. Here his greatness as a scientist, educator and writer was in full flower. Chronologically, the period falls into two parts: the 15 years he was professor of horticulture and the following decade when he was head of the College of Agriculture.

As a Cornell professor, the thirty-year-old Michigan youth was associated with a man almost as remarkable as himself—Isaac Phillips Roberts. Roberts was a bearded patriarch who had never been to either college or high school, yet his work as dean was already famous before Bailey teamed up with him. It was Roberts' idea to make the education of future farmers practical, and he repeatedly urged his students to go out and get mud on their boots. To Roberts' robust enthusiasm Bailey contributed a new idea—one that was to revolutionize American agriculture. It was extension work—starting schools where teaching and demonstration went hand in hand. In this work Bailey went out to rub elbows with farmers and to teach them the then suspicious doctrine of soil fertility. The idea was so successful that other schools took it up, and America's great agricultural program of today is the result.

When Roberts retired in 1903, Bailey succeeded him as dean at the age of 45. The next ten years have few parallels in the history of education. Well might Cornell's great president, Andrew Dickson White,

(*Continued on page 58*)

LIBERTY HYDE BAILEY

(*Continued from page 57*)

refer to the "prodigious" success of Dr. Bailey. During that one decade the teaching staff at the College of Agriculture grew from 11 to 100 and the student enrollment from less than 100 to 1400. Buildings and plant equipment jumped from a value of $60,000 to more than $1,000,000.

But Bailey's success was based on things more fundamental than mere statistics on growth of the college. His almost inhuman activity reached far beyond college and campus. More than half of the 100 books he has written or edited were done in those 10 years.

His study of the palm—upon which more people depend for food and fibre than any other plant—has taken him into most of the tropical lands of the planet. Of late years he has traveled mostly by airplane and traveled alone. He goes to the capital or main city of the particular place which he wishes to explore. Here he hires assistants and porters for the trip which may last for several weeks or several months. Photographs are made and specimens collected of all new discoveries. An expedition may cost seven or eight thousand dollars, which he pays for himself. The specimens are stored in the Bailey Horitorium, of which his daughter, Ethel Bailey, is curator. He has plans mapped out for years ahead—if he lives that long. His father lived to be 92, which he hopes to equal. He wants to make at least one more trip to Africa, which lack of transportation prevented him from reaching during the war.

CALENDAR OF COMING MEETINGS AND EXHIBITS

(*Continued from page 42*)

Jan. 21-22—Maine State Pomological Society annual meeting in conjunction with Annual Trade Show Exhibit, Lewiston.—Rockwood Berry, Sec'y.

Jan. 28-30—New York State Horticultural Society winter meeting for eastern New York, Armory, Kingston.—D. M. Dalrymple, Sec'y.

Feb. 4-6—West Virginia State Horticultural Society annual convention, Martinsburg.—Carroll R. Miller, Sec'y.

Feb. 12—Vermont State Horticultural Society meeting, Municipal Auditorium, Barre.—Charles H. Blasberg, Sec'y.

Feb. 12-13—Idaho State Horticultural Society annual meeting, Boise Hotel, Boise.—A. Harold Davidson, Sec'y.

Feb. 16-18—National Peach Conference, with Centennial Fruit Congress, Coronado Hotel, St. Louis—Carroll R. Miller, Exec. Sec'y.

Feb. 18-20—Ohio State Horticultural Society winter meeting, Hotel Cleveland, Cleveland.—C. W. Ellenwood, Sec'y.

WILDER TO JOHNSTON

(*Continued from page* 54)

and purpose, accept the challenge of the future. It has a place in American horticulture, and its future will depend upon how well it defines its objectives and how persistently it pursues its course toward achievement. Stanley Johnston, its incumbent president, has the qualities of leadership which should ensure APS its respected place, and lead the Society in its march of progress.

MEMORIES

(*Continued from page* 56)

Arthur, a paper on pear blight; C. V. Riley, on mildews of the grapevine; A. J. Cook, on economic entomology; W. I. Chamberlain, of Ohio, on gathering fruit statistics; Parker Earle, of Illinois, on packing and shipment of fruits; T. V. Munson, of Texas, his able paper on American grapes. An exhibit of native fruits and nuts of Michigan was displayed for which a Wilder medal was awarded. Here were prospects of the new developments in pomology.

An epoch has passed in American pomology. New incentives have arrived. Knowledge of the subject has vastly increased. Practices are recent or new. Reasons for growing fruits have changed. The amateur is a lessening quantity. We make progress; yet we should be careful not to forget or to underrate the long route by which we have come.

Yet the old American Pomological Society had other offices. We may pause to remember the raising of the monument to Andrew Jackson Downing, lost in the catastrophe that overtook the steamship Henry Clay on the Hudson in 1852. It was loss of a great soul in his thirty-seventh year, charter member of the American Pomological Society, whose work as a pomologist, architect, planner and writer must never be forgotten and whose inimitable *Rural Essays* should continue to brighten the lives of men. Wilder's encomium of him at the second session of the Society in Philadelphia in 1852 is itself a treasure of literature. The Society raised the money for the beautiful marble vase, more than nine feet high, with its pedestal and plinth, "erected by permission in the grounds of the Smithsonian Institution, at Washington, the field of Mr. Downing's labors at the time of his death." I visited this monument in reverent homage on every early visit to Washington. A picture of it may be seen on page 30 of the Proceedings of the Sixth Session for 1856, and memories of the Downing brothers will remain.

U. P. HEDRICK

(*Continued from page* 26)

summer apple in New England; Winesap, a red apple found in every winter market since before the Revolution; and York Imperial, a red, oblique-shaped winter apple dating back before the Revolution.

The four crab apples of yesterday are: Hyslop, about the best in fruit and tree; the two dainty little Red and Yellow Siberians; and Transparent, almost perfect in tree and fruit. All are notable for jelly making.

Apricots were once grown in the East, Downing having listed 26 kinds. Were it not that they blossom early, they would still be grown wherever the peach is planted. Blenheim, Moorpark, Peach, and Royal go back beyond 1850 and are still standard for East and West.

Blackberries and dewberries belong to the present. Of blackberries, Agawam, Dorchester, Early Harvest, and Eldorado, mostly have passed into oblivion, though only Dorchester is more than a hundred years old, while Lucretia, the oldest dewberry, is now hardly one hundred.

Early Richmond is the earliest sour cherry and thrives from New York to Oregon, indispensable in home plantings. It is the old Kentish of the Norman invaders renamed for Richmond, Virginia, where it was early grown. English Morello is a very late cherry, small, with a dark red skin and juice, sour and astringent, splendid for cooking and good to eat out of hand when dead ripe. The round-headed dense trees with drooping branches are identified at sight. Montmorency, light red, of medium size, pleasantly acidulous, is the most popular sour cherry in America; it is an old variety first grown in Montmorency Valley in France, early brought to the St. Lawrence by the French.

Black Tartarian was a favorite sweet cherry for dooryards as long ago as the Revolution, thriving in all cherry soils and climates, bearing firm, crisp, richly-flavored fruits. Coe and Elton are two light-colored sweets dating back over a hundred years, both having delicate, pleasing cherries. Napoleon, renamed Royal Ann on the Pacific Coast, is a sweet cherry, the best of all light-colored sweets for commercial orchards; it has been grown in Europe for several centuries and was brought to America in 1820. Schmidt came to America more than a hundred years ago; its large, black, firm-fleshed cherries and nearly perfect trees are favorites for all cherry growers. Yellow Span-

(*Continued on page* 61)

U. P. HEDRICK

(*Continued from page 60*)

ish, probably the oldest sweet cherry, is a close competitor to Napoleon, which it resembles in fruit and tree, not quite so good in tree but having sweeter, richer cherries.

Duke cherries are hybrids between sours and sweets, of which May Duke, Late Duke, Royal Duke, and Reine Hortense are best. The trees of these hybrids are midway between those of the parent species, and the fruits are a refreshing mingling of sour and sweet.

The currant has changed less than any other cultivated fruit since the Red Dutch, oldest of all currants, was brought to America by the Puritans. Few could separate the old and the new among the dozen varieties now grown on this continent.

It cannot be said that varieties of gooseberries do not differ. Each of several hundred English gooseberries and the score or more American varieties are easily separated. However, the gooseberry is a fruit of the past in America. Almost no one in the next generation will know this splendid fruit.

Catawba, introduced in 1823, was the first good American grape, and the rich, sugary, red fruits are still esteemed to eat out of hand and for wine. The small, sour, black Clinton has been grown since 1840 for red wines. Concord, "the grape for the millions," a black grape grown in all grape lands in America, dates back to 1849. Delaware, a small red grape, also introduced in 1849, has been used for a table and wine grape ever since. Diana, a seedling from Catawba, which it resembles, is even better for eating and for wine. Herbemont is an old grape in the far South, much grown years ago for the table and red wine. Ives has long been a standard grape in the North for red wines. Lenoir belongs to the far South and is one of the few American grapes grown in France for red wines. Scuppernong, Misk, and Thomas are the three oldest non-bunch grapes of the South.

The nectarine, a smooth-skinned peach, is an old fruit thriving wherever peaches grow. In spite of its ease of culture, few Americans east of the Rocky Mountains ever saw a nectarine tree or fruit. Now that curculio can be checked by spraying, several nectarines can be grown in the East. Boston is a large, handsome, late kind. Elruge is alluring in appearance as well as in nectar-like flavor. Hardwicke is a large edition of Elruge, a little later. Humbolt is another late variety, one of the best

(*Continued on page 65*)

EZRA JACOB KRAUS

(*Continued from page 23*)

ture of growth-regulating chemicals is as unlimited as it was startling.

Dr. Kraus has also made his genius felt in the field of human relations. Science, research, and experimentation meet many apparently insurmountable obstacles. He was quick to see the fatal influence of discouragement, and he never permitted his students or research workers to adopt an "end of the road" philosophy. He was often heard to say, "Never mind who you are. You have as good a chance as the next; get to work on your problem and it won't be long before you learn something important." It is the gleam of light that comes from unexpected sources that Kraus constantly held before his workers. Such an optimistic approach applied in a most realistic way never fails to provide an incentive to work and to succeed.

Although Kraus is head of the department of botany at the University of Chicago, he is at heart a horticulturist. He is also an outstanding physiologist. For a number of years he served as principal plant physiologist for the United States Department of Agriculture. His work in breeding hardy chrysanthemums has made it possible for northern flower growers to enrich their gardens with this glorious flower. One of his prize possessions is a letter from a North Dakota flower lover expressing appreciation for the hardy chrysanthemums which now grace her garden.

Born in Ingham County, Michigan, in 1885, Kraus received the Bachelor's degree from Michigan Agricultural College in 1907 and the Doctor's degree from the University of Chicago in 1917. His first professional connection was as professor of horticultural research at Oregon Agricultural College. People still speak of the "Kraus era" at Oregon, when as a young man he began to attack the problems of horticulture from a fundamental viewpoint. In 1919 he became professor of applied botany at the University of Wisconsin. Since 1927 Kraus has been professor of botany at the University of Chicago—a great teacher, a distinguished professor, past-president of the Botantical Society of America and of the American Society for Horticultural Science.

The joy of doing and of helping is uppermost in his mind. Nearly everything else is secondary. His outstanding personal characteristic is modesty coupled with charm and graciousness. But in the words of Goldsmith "Modesty seldom resides in a breast that is not enriched with nobler virtues."

WILDER MEDAL

(Continued from page 53)

oped through breeding.

1935, Silver Medals: Connecticut State College, Storrs, Conn., for a well-grown and well-selected educational exhibit of 92 old and new varieties of apples. Dominion Experiment Station of Kentville, Nova Scotia, for an equally well-grown and well-selected educational exhibit of 73 varieties of apples, many of them being of Canadian origin.

1936, Silver Medal: Indiana State Horticultural Society for an excellent exhibit of the horticultural resources of Indiana, shown at the First International Horticultural Exposition in Chicago in September of that year.

1940, Silver Medal: A collection of interspecific hybrids of Corylus exhibited by the Nut Section of the Division of Fruit and Vegetable Crops and Diseases of the Bureau of Plant Industry, USDA. Bronze Medal: A new variety of pecan, USDA 814 (Schley x Moneymaker), exhibited by the Nut Section of the Division of Fruit and Vegetable Crops and Diseases of the Bureau of Plant Industry, USDA.

1947, Silver Medals: Maurice A. Blake, New Brunswick, N.J., for the origination of meritorious varieties of peaches. New York State Agricultural Experiment Station at Geneva, N.Y., for the origination and introduction of meritorious varieties of fruits.

WILLIAM H. CHANDLER

(*Continued from page* 23)

side down if I thought I could learn something by doing it."

An original thinker unfettered by convention and the orthodox, Chandler made one of his most significant contributions in the field of nutrient deficiencies. When "little leaf" or "Rosette" caused the death of a large number of citrus trees in California and threatened the citrus industry there, Chandler characteristically attacked the problem on a huge scale, with great energy and enthusiasm, and with no inhibitions. Working with Hogland, Chandler tried the application of many different chemicals in varying amounts before he discovered that iron sulfate gave a miraculous cure. Typical of the man, he was not content with this discovery. He soon found out that zinc, an impurity in the iron compound, was the active curing agent. His work on pruning and winter hardiness are classics in the annals of applied horticulture. His books are a masterly marshalling of facts, entwined with philosophy, discernment and judgment.

Born in Butler, Missouri, July 31, 1878, Chandler received the Bachelor's degree from the University of Missouri in 1905 and the Ph. D. degree in 1914. Soon after this he went to Cornell as professor of pomology and later became vice-director of research there. The University of California at Berkeley offered him the professorship of pomology in 1923, which he accepted. He has stayed in his beloved California ever since and is the professor of horticulture and dean of the College of Agriculture at the University of California at Los Angeles.

Chandler's hobby is one—horticulture. A visitor to his comfortable and artistic home is quickly impressed with the variety of rare plants which are grown there. His wife, a delightful person, is interested keenly in his work and has done much to maintain his faith.

Dr. Chandler plans to retire in 1948 and to devote himself leisurely to further studies in horticulture, of course in California. It is difficult to properly appraise a great man, and so it is with Dr. Chandler. His accomplishments are many, his gifts to the orchard industry of this country are great, and his name is permanently engraved in horticulture's "Hall of Fame."

U. P. HEDRICK

(*Continued from page* 61)

in quality. Lord Napier is the mainstay of early nectarines. Stanwick is an old variety, still a standard late kind in commercial orchards. Victoria is a late nectarine with kernels as large and sweet as those of the almond.

Out of the 1400 peaches described in America, few go back to 1850. One cannot do the peach justice by naming only the varieties of yesterday, yet some of our varieties of highest quality were grown earlier. Chili, a very late peach with firm, dry flesh, has for more than a hundred years been one of the best peaches for canning. Early Crawford and Late Crawford have been under cultivation since 1800, and in all the time since, no better flavored yellow-fleshed peaches have been grown. Heath Cling goes back to the Revolution and is still grown in California for canning; it keeps in common storage until December. Oldmixon Cling was the first peach to be named in America; it and its offspring, Mountain Rose, white-fleshed, round as golf balls, are as well-flavored as any peaches ever grown. Salwey, now the only peach grown in America which came from Europe, is still grown for canning and drying in California.

One can hardly think of Bartlett as a pear of yesterday, yet it came to this country from England in 1797 as Williams, and ever since has been a favorite. Anjou is an old French pear, handsome and well-flavored in early winter. Bosc is a russet, pyriform pear of very high quality in late autumn. Hardy is a good autumn pear of large size, greenish-yellow, of good quality. Comice is a handsome, yellowish, French pear, justly esteemed on the Pacific Coast for beauty and high quality. Angouleme is an excellent, dull yellow pear, of largest size when grown on dwarf trees. Flemish Beauty, for a half century after its introduction about 1800, was a favorite, but scab and blight are too rampant now. These pears are yellow and of highest quality. Lawrence is a good early winter pear of distinctive shape, bright yellow skin, with rich, perfumed, sugary flesh. Seckel stands alone in tree characters and is unsurpassed in quality of fruit, falling short in its small pears, which, however, are handsome with a yellowish-red skin and trim contour.

Of 1800 plums described in America, divided among a dozen species, only the European and native plums

(*Continued on page* 66)

U. P. HEDRICK

(*Continued from page* 65)

belong to yesterday. Bavay is one of the best green plums, excelling others in appearance and flavor. Bradshaw long led all other plums in number of trees in America, though of low quality and none too good in tree. German Prune, one of the oldest plums under cultivation, is a splendid purple prune. Reine Claude is a delectable round, greenish plum, a veritable sweet meat when dried as a prune. Other notable plums grown before 1850 are Diamond, Field, Goliath, Gueii, Hand, Hudson, Hungarian Prune, Ickwarth, Lombard, McLaughlin, Peters, Quackenboss, Washington, and Yellow Egg. Two Damsons are commonly grown: French and Shropshire, both enormously productive.

Quinces are now seldom grown, although in 1900 a dozen varieties were known. Only one variety, Orange, was grown before 1850, of which there were several strains.

Not a red, black, or purple raspberry now grown in America was under cultivation before 1850. There had been before this date a few European raspberries grown along the Atlantic seaboard, but none of them could compete with wild raspberries growing along fence rows and in sunny forest glades.

The strawberry, too, is a modern fruit. The forerunner of the 1500 strawberries described as having been grown in America was the Pine, brought to America from England about 1800. Then came Hovey, sensation of the age, in 1838, with no other worth while variety until Wilson in 1851. None of these is now grown.

EQUIPMENT

(*Continued from page* 25)

West Coast fruit soon began competing for the same markets.

The refrigerated storage, the power sprayer for pest control, the tractor, and the apple sizer, which were developed between 1890 and 1915, were largely responsible for the great advancements in commercial fruit production made during this period. However, the fruit grower, keeping pace with the ever-progressing time, continued to demand new equipment for more efficient operation. The adaptation of pneumatic tires for heavy trucks about 1925, plus the improvement of interstate highways, opened new fruit growing areas and brought about a new means of rapid transportation of perishable fruit to dis-

(*Continued on page* 67)

EQUIPMENT

(Continued from page 66)

tant markets. This was followed a few years later with the introduction of pneumatic tires for tractors and other farm equipment, making it possible for farm rolling stock to be transported rapidly in orchards and to be used on the highway.

Many new changes in equipment and methods of operation are clearly evident in small fruit production. The tedious job of setting strawberry plants is gradually being taken over by the transplanter. The ground ordinarily prepared by plowing and harrowing, may be completely conditioned for planting in one operation by the roto-tiller. IPC, 2,4-D, and chemicals yet to be discovered, promise to replace the old hand hoe in weed control. Holes for grape and bramble trellis posts can be dug one a minute with a soil auger mounted on a tractor and operated from the power take-off unit. Tillage tools, hydraulically operated from the tractor seat by finger tip controls, have all but replaced the horse drawn grape hoe and cultivator.

The tree fruit industry has also undergone many changes in these past few years. Contour planting, adapting hillsides for machine operation and at the same time acting as a soil conservation measure, is common. The power-driven post hole digger is quickly adapted for the operation of planting trees by replacing the small soil auger with a larger one. Hydraulically driven loppers for tree pruning are on the market, and tractors equipped with hydraulically operated platforms for pruning operations, may eventually replace ladders. Tractor-operated brush rakes have already replaced the old brush burner. The brush shredder has made its appearance where the size of operation justifies its cost. Sod orchards for apples, pears, cherries, and peaches are standard in some sections of the country. This is conducive to the use of certain types of power equipment and at the same time eliminates the tedious, expensive operations of clean cultivation in favor of the fast, less expensive operations of mowing. New tractor-powered mowers are available that no longer have to be supplemented with the conventional hand scythe.

Worth Having

The new B. F. Goodrich booklet on over-all tractor operations is what every fruit grower has been waiting for. This handy pamphlet tells the grower how to use liquid weight, how to care for tractor tires, and how to cut down steel wheels and includes inflation tables, anti-freeze charts, and many money saving shortcuts. To obtain this booklet write B. F. Goodrich, Dept. 135, Akron, Ohio, and it will be sent to you free.

OPPORTUNITY ADS

Only 15c a Word—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS AMERICAN FRUIT GROWER, 1370 Ontario Street, Cleveland 13, Ohio

CHAINS

CHAINS—TRACTOR, TRUCK, ROAD GRADER, BUS. Write for circular, give tire sizes—Prompt shipment. HORNER TRACTOR SALES, Geneva, Ohio.

EDUCATIONAL

EARTHWORM CULTURE. SEND POSTCARD FOR valuable free bulletin on "Earthworms: Their Intensive Propagation and Use in Soil-Building." DR. THOMAS J. BARRETT, Dept. 7, Box 488, Roscoe, California.

FOR SALE—EQUIPMENT & SUPPLIES

NEW, SENSATIONAL "TAME FLAME" FIRE EXtinguisher acts pronto. Only foot long; ten ounces. Attractive, colored Bakelite with wall attachment. Harmless, stainless, simple operation. 89c postpaid. At this amazing price order several for home, garage, car, etc. ADVANCE PRODUCTS, 64 West 48th, New York, New York.

SPEED SPRAYER MODEL 48-75-5FC FOR SALE—Single and double heads—9.00-16 tires—500 gal. tank. R. A. BARCLAY, Delicious Orchards, Eatontown, New Jersey.

FOR SALE: 1947 MYERS SPRAYER (DEMONSTRAtor), 400 gal. tank, on rubber. Novo Engine. 20 gal. Pump. 4 wheel. 35 gal. per minute tank filler. Price $1395.00 F.O.B. CITY & FARM HOME SUPPLY, LaGrange, Indiana.

FOR SALE: MYERS SILVER-AIRE SPRAYER WITH 11:25 x 24 tires used one season in A-1 condition. JUDSON FRUIT FARMS, Bristol, Indiana.

ONE APPLE GRADER AND PACKER. One Niagara Grader 24 inch belts complete with feed belt, Eliminator Brushes, Roll Conveyor 2¼, 2⅛ and 2¾ inch sizes and over end with four picking belts, eleven feet long and complete cull conveyor belt over top of grader. ONE PEACH GRADER AND PACKER. One feed belt and brusher 42 inch roll conveyor six roll sizer with four lane distributing belt 40 feet long with take-off bins complete. MINARDO OH-GEE FARMS, Bangor, Michigan.

BUTLER SIZER COMPLETE WITH ELECTRIC MOTOR. Like new. Homemade sizer without motor; three sizes. Have larger unit. NEWMAN ORCHARDS, Martinsville, Illinois.

FOR SALE—FARQUHAR & MT. GILEAD CIDER Presses new and rebuilt. Immediate delivery on rebuilt presses. Also some secondhand Mt. Gilead Cider Presses with wooden frames Nos. 8 and 10 from $150 to $200. Can be rebuilt. Also Clarifyers and cider press supplies. W. G. RUNKLES MACHINERY COMPANY, 185 Oakland Street, Trenton, New Jersey.

BEAN SPRAYER—55 GAL. PUMP. 25 HORSE ENgine. 600 Gal. Tank. On Skids. $1200.00. LOUIS VARNI, So. Glastonbury, Conn.

HORSE TRAINING

"HOW TO BREAK AND TRAIN HORSES"—A BOOK every farmer and horseman should have. It is free, no obligation. Simply address BEERY SCHOOL OF HORSEMANSHIP, Dept. 1381, Pleasant Hill, Ohio.

MALE HELP WANTED

MAN—COMPLETE MANAGEMENT 70 ACRE APPLE orchard Central Illinois. Must be experienced. Best references. Willing to offer financial interest to right man. WRITE AMERICAN FRUIT GROWER, BOX 73, 1370 Ontario Street, Cleveland 13, Ohio.

MISCELLANEOUS

FLOWER LOVERS—JOIN THE BULB OF THE MONTH Club—Send today for free copy of "How to Grow 12 Rare Flowering Bulbs in your Home." Send 12c stamps or coin to cover handling. You will receive full details of CLUB and invitation to membership. BULB OF THE MONTH CLUB, 123 Madison, Dept. AG, Chicago 3, Illinois.

FACTORY REJECTS—GENUINE IMPORTED BRIAR smoking pipes from regular $2.50-$10 retailers. Have surface flaws not affecting smoking qualities. Priced below cost of manufacture. 2 for $1.00. GAYLORDS, Dept. K, Brockton, Mass.

NURSERY STOCK

FREE—BALDWIN'S 1948 CATALOG OF FRUITS, SHRUBS, ROSES, FLOWERS. Guaranteed stock, reasonable prices. 59 years experience. Best varieties—Strawberries, Raspberries, Boysenberries, Blueberries, Grapes, Asparagus, Tree Fruits, other Fruits. New Superfection and Streamliner Everbearing Strawberries. Special offers —Cash discounts. Illustrated catalog free. Write today. O. A. D. BALDWIN NURSERY, Box 65, Bridgman, Michigan.

100,000 LATHAM RASPBERRY PLANTS. No. 1 SUCKers @ $30.00 per thousand. C. H. BENEDICT, Route 1, Grand Junction, Michigan.

THE CHEYENNE NO. 3 STRAWBERRY. FAIRFAX X F. Ovatis by USDA. Hardy in the far North and excellent for Naturalizing. Fresh Dug, April Delivery, $3.00 per 100 prepaid. W. A. BENTS NURSERIES, Small Fruit Specialists, Cresco, Iowa.

HYBRED RASPBERRY "POTOMAC" "RUBUS NEGLECTUS" Red x Black by USDA. Very productive and hardy canes, thornless. Doubly Inspected plants for April. $3.00 per 25. $6.00 per 50 prepaid. W. A. BENTS NURSERIES, Small Fruit Specialists, Cresco, Iowa.

NUT TREES, GRAFTED, DEPENDABLE, BEST VArieties. Reasonably priced. Order early while available. BERRHOW NURSERIES, Huxley, Iowa.

"BRUNES MARVEL" NEW EVERBEARING STRAWberry. Outstanding flavor, wonderful canner and freezer, very sweet and hardy. Folder free. BRUNES STRAWBERRY NURSERY, Pequot Lakes, Minnesota.

DEPENDABLE FRUIT AND NUT TREES, SMALL fruits, Ornamentals, and General Nursery Stock Combined catalogue and Planting Guide free. CUMBERLAND VALLEY NURSERIES, INC., McMinnville, Tenn.

PEACH TREES AS LOW AS 10c. APPLES, PLUMS, Pears, Cherries, Figs, Apricots, Paper Shell Pecans, Shade Trees, Grapes, Berry Plants, Rose Bushes and Flowering Shrubs at lowest prices. A general line of first class Nursery Stock. Satisfaction Guaranteed. Catalogue free. EAST'S NURSERY, Amity, Arkansas.

BLUEBERRY PLANTS. Wholesale and Retail. One, two, and three years. Certified. Early midseason and late varieties, bargain prices. GALLETTA BROS. BLUEBERRY FARMS, Hammonton, New Jersey.

NEWEST PLANT INTRODUCTIONS BY PROF. N. E. Hansen. Famous Hansen Bush Cherry. Hardy Manchurian Apricots. Dwarf Red-Fleshed Plums. All-Red-Fleshed Apples, crabs and many other quick bearing, hardy, delicious new fruits, ornamental shrubs, trees, roses. New forage grasses and grains. Send for free illustrated catalog. HANSEN NURSERY, Dept. AFC, Brookings, South Dakota.

CULTIVATED BLUEBERRIES. YEAR OLD 25c. TWO year 50c. Three year 85c. Specializing in Hybrid Blueberry plants. HARTMANN'S PLANTATION, Grand Junction, Michigan.

STRAWBERRY PLANTS. EXPRESS COLLECT. Aroma, Blakemore, Dunlap, Klondike, Missionary, $5.00 per 1000. Premier, Tennessee Shipper, Tennessee Supreme, Dorsett, New Robinson, $6.00 per 1000. Everbearing, Evermore, Gem, Progressive, $11.00 per 1000. HYSINGER NURSERIES, Cleveland, Tennessee.

CONCORD GRAPES—2 YR. VINES 10—$2.00; 25—$4.00; 100—$15.00. 3 yr. bearing size 10—$3.00. Cuttings $1.00 per 100. All postpaid. Other varieties. List free. IDEAL FRUIT FARM, Stilwell, Oklahoma.

CHESTNUT TREES. CHINESE BLIGHT RESISTING. One year old, certified stock. $1.69 each prepaid, will ship C.O.D. order from F. S. JOHNSON, Coker Creek, Tennessee.

STRAWBERRY PLANTS — BLAKEMORE, MISSIONary at 100 for $2.00; 500 for $5.00; Postpaid. 1000 for $8.00. Everbearing at $15.00 per 1000. Boysenberry thornless at 20c each. JOHN LIGHTFOOT, Birchwood, Tenn.

GET CANADA'S BEST NEW CURRANTS, RASPberries, Strawberries, Tomatoes, etc. LOWDEN'S PLANTS & SEEDS, HAMILTON, ONTARIO.

NEW HARDY VARIETIES OF TESTED PEACH TREES. Catalog free. MARKHAM FRUIT BREEDER, Flora, Illinois.

HARDY, GRAFTED NUT TREES, EARLY-BEARING. Select Nuts. E. Walnut, Butternut, Shagbarks, Hazels. Catalog. MICHIGAN NUT NURSERY, Union City, Michigan.

PEACH TREES—CHOICE STOCK OF BEST NEW varieties. PEACH RIDGE FARMS, Clemson, South Carolina.

NEW FRUIT CREATIONS DEVELOPED BY NEW Hampshire University. List. PINE-CROFT NURSERIES, Dept. A, Exeter, New Hampshire.

PEACH TREES, SUNGOLD, MAYFLOWER, CHAMpion, Indian cling, 15 to 24 inch, 25 for $3.00. Postpaid. PONZER NURSERY, Rolla, Missouri.

200 VARIETIES GRAPES, LATEST INTRODUCTIONS. French hybrids, etc. SCHROEDER VINEYARD, Hutchinson, Kansas.

FRUIT TREES PROPAGATED FROM OUR OWN bearing orchards. Bud Selections. Insuring best variety characteristics. It will pay in the long run to get the best. Wholesale list free. SIMS FRUIT & NURSERY FARMS, Hannibal, Missouri.

EVERGREEN TREE SEEDLINGS AND TRANSplants. Many varieties. Free list. SUNCREST EVERGREEN NURSERIES, Johnstown, Pa.

PEACH AND APPLE TREES LOW AS 20c. PEARS, plums, cherries, nuts, berries, grapevines 10c. Evergreens, shrubs, shade trees low as 25c. High grade quality stock can't be sold lower. Forty page color catalog free. TENNESSEE NURSERY CO., Box 4, Cleveland, Tennessee.

STRAWBERRY PLANTS 100 BLAKEMORE, KLONdike or Missionary $1.00 Postpaid; 100 Mastodon or Gem Everbearing $2.50; 100 Streamliner the most promising everbearing $5.00. Ask for list describing all leading varieties as well as vine berry plants. WALLER BROTHERS, Judsonia, Arkansas.

FRUIT TREES, NUT TREES, BERRY PLANTS AND Ornamental Plant Material—offered by Virginia's largest Growers. Write for Free Copy 48-page Planting Guide in color. WAYNESBORO NURSERIES, Waynesboro, Va.

ORCHARDS FOR SALE

FOR SALE: 120 ACRE FARM. FIVE ACRES PEACHES, 35 Acres apples, Trees 9 years old. Delicious, Jonathan, Turley, Red Rome. Farm land won highest producing La Grange Co. House and buildings, won Neater Homes Contest two years. Price $35,000.00. WILLIAM B. FISHER, LaGrange, Indiana.

NIAGARA-ORLEANS COUNTIES, BETWEEN BUFfalo and Rochester, New York. 60 to 150 acres, apples, peaches, etc. Free list upon request. HUNT-REALTORS, 410 Brisbane Building, Buffalo, New York.

19 ACRES—HOME—INCOME—15 ACRES ORCHARD one half bearing. Fruit stand, cold storage, house, barn, outbuildings. $20,000, cash or terms. RAY W. JACOBS, Julian, Calif.

92.6 ACRE APPLE ORCHARD ¼ MILE NORTHWEST of New Paris, Ohio. Between 3,000 and 3,500 trees. All varieties. 5 room house, not modern, large barn, underground storage, sprayer, disk, grader. Priced to sell. Write MRS. W. C. MYERS, 4114 N. Dixie Dr., Dayton 5, Ohio.

FOR SALE: 120 ACRES OF LAND NEAR EFFINGHAM, Illinois. 70 acres in orchard. In its prime. 20 acres which is 14 years old. Mostly Jonathans, Golden Delicious, York Imperial and Red Delicious; 30 acres pasture and work land; 20 acres of timber. Small house; New Barn and Packing Shed, (Plenty of water). Price $20,000 land; $5,000 equipment. If interested write: DR. IRA D. ONDLER, Coggon, Iowa.

(Continued on page 69)

OPPORTUNITY ADS

(*Continued from page 68*)

80-ACRE APPLE ORCHARD NEAR SHUBERT, Nebraska, with 36 acres producing and 32 acres new orchard 7 years old. Small improvements. Over 10,000 bushels produced last season. BYRON REED COMPANY, INC., 2nd Floor, Farnam Building, Omaha 2, Nebraska.

FOR SALE—PROFITABLE ORANGE GROVE. ON account of health of owner will sell my productive grove in Orange County, Florida, of sixty acres, yielding approximately 20,000 boxes annually. Income yield 10% to 12% net average last 12 years. Price $1,000.00 per acre, which is 20% below market value. Terms to reliable party. ADDRESS AMERICAN FRUIT GROWER, BOX 72, 1370 Ontario St., Cleveland 13, Ohio.

ORCHARD FOR SALE—APPLE ORCHARD IN Central Missouri, fine future ahead—2200 trees—good varieties, mostly Jonathans. 1200 trees 15 years old; 1000 trees, 10 years old. On paved Highway 40, mile small town and railroad, 15 miles west Columbia, Missouri. Fair house. Owner has other interest. For full information contact NORRIS SAMPSON, 911-A Broadway, Columbia, Missouri.

BLUEBERRY AND FRUIT FARM COMPLETE EQUIPment. $30,000. Write SQUARE REAL ESTATE SALES AND EXCHANGE, 1591 Plainfield, Grand Rapids, Michigan.

FINGER LAKES ORCHARDS—10 ACRES PLUMS, 30 Apples, 53 Crop-land. 65 Acres Apples. Retail apple sales 12,000 bushels. 10 Pears, 110 Alfalfa and Wheat. 2 Barns, 22 Stanchions. SWARTWOOD, Ithaca, New York.

118 ACRE FARM—52 ACRES IN BEARING APPLE orchard, good local markets, stream, good buildings. Owner retiring after 35 years of successful fruit growing. WM. S. WEAVER, Macungie, Pa.

PATENTS

NATIONAL TRADE MARK COMPANY, MUNSEY Building, Washington, D. C.

POSITION WANTED

APPLE ORCHARD MANAGER. MARRIED MAN, 30, college graduate. Member of Massachusetts Red Apple Club seeks position managing going commercial orchard in East. G. P. TAYLOR, Greenfield, Mass.

POULTRY

WHITE GUINEAS—CHICKS, EGGS, STOCK. CATAlogue Free. GOSHEN POULTRY FARM, Goshen, Indiana.

HELM'S PULLORUM PASSED CHICKS. HOLDER Three World Records. ROP Sired Matings. Sexed Chicks. Free Brooding Bulletins. ILLINOIS HATCHERY, Metropolis, Illinois.

RAISE TURKEYS THE NEW WAY. WRITE FOR free information explaining how to make up to $3,000.00 in your own backyard. Address NATIONAL TURKEY INSTITUTE, Dept. 233, Columbus, Kansas.

POULTRY-RAISERS—INCREASE POULTRY PROFITS with Experimental Farm advice. Latest tested helps. 24 Months for only $1.00. Subscribe Now! POULTRY TRIBUNE, Dept. H, Mount Morris, Illinois.

SCHLICHTMAN'S U.S. APPROVED. PULLORUM CONtrolled chicks, per 100 prepaid, Leghorns, Rocks, Reds, Wyandottes, Austra Whites, $10.90. Assorted $8.95. Pedigree sired and sexed chicks. Free Catalog explaining 2-week replacement guarantee. SCHLICHTMAN HATCHERY, Appleton City, Missouri.

RABBITS

RAISE GUARANTEED CHINCHILLA RABBITS. Greatest profits from gorgeous furs, delicious meat, valuable breeders. Experience unnecessary. Fascinating hobby. Year-round, money-making business. Write world's largest breeder today. WILLOW FARM, R. 32, Sellersville, Pa.

RODENT CONTROL PRODUCTS

TRE-TEX FOR TREES. SEE DISPLAY AD ON PAGE 62. E. L. ECKERLEY, BOX 91, NOBLESVILLE, INDIANA.

KILL RATS AND MICE. SENCO POISON OATS FOR Mice. 10 lbs. $6.00; 25 lbs. $9.00; 50 lbs. $17.50; 100 lbs. $30.00. Senco Micro Arsenic Dust for Rats and Mice. 10 lbs. $5.00; 25 lbs. $9.00; Terms. Check with order or C.O.D. FREIGHT PREPAID. We manufacture and sell only bulk rodent poisons. No small retail packages. Write for circular. SENNEWALD DRUG CO. INC., 2723 Chouteau Avenue, St. Louis, Missouri.

TREE BANDS

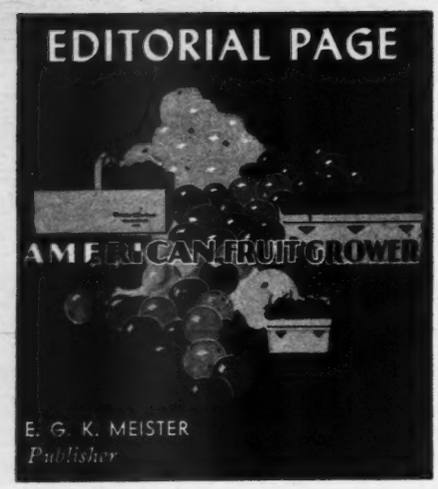
FOR BETA-NAPHTHOL TREATED APPLE TREE bands. Write M. A. KOELLER, Barry, Illinois.

WANTED TO BUY

WANTED—UNIMPROVED FARM. RATHER CHEAP. HERBERT AYER, Route 1, Newtown, Ohio.

WANTED CIDER PRESS PART CYLINDER FOR MT. Gilead No. 4-C Hydraulic Press. Please wire us collect immediately if you have this part. MOSSLEY HILL ORCHARDS, Barrington, Illinois.

USED PEACH HEAD FOR DAUGHERTY SPEED Sprayer. Must be in A-1 condition. Name best price and year bought. TREXLER FARMS, Allentown, Pa.



Dr. H. B. TUKEY

Associate Editor

AMERICAN FRUIT GROWER

IT IS WITH utmost pleasure that I announce the appointment of Dr. H. B. Tukey as Associate Editor of AMERICAN FRUIT GROWER. Dr. Tukey succeeds the late Dr. J. H. Gourley and will bring our readers a wealth of experience in the science and practice of horticulture. As Head of the Department of Horticulture of Michigan State College, and before that as Chief in Research of the New York Agricultural Experiment Station, and lately as President of the American Society for Horticultural Science, Dr. Tukey is in a position to observe, write, and counsel the fruit growers of the nation. I know that everyone connected with the fruit industry from study hall and laboratory to field and orchard will feel, as we do, that no one is more admirably equipped to help the 165,000 readers of AMERICAN FRUIT GROWER.

We welcome him in most heartfelt fashion—and we know our readers one and all will do likewise.—*E. G. K. Meister, Publisher*

Salute to Three Leaders

IN EVERY FIELD of endeavor there are many outstanding men. This is especially true in fruit growing which depends, for its very stature as an industry, upon the quality and talent of its leadership.

The works and accomplishments of many gifted leaders in the fruit producing field have been real contributions to the health and happiness of the American people. These men have worked diligently and unstintingly in the public interest and for the betterment of all horticulture, yet they have received little public recognition. It was this fact that led the editors of AMERICAN FRUIT GROWER to consider the selection of three outstanding horticulturists. The task was difficult, and it was found that no one man could easily be singled out as individually great.

From among the many outstanding horticulturists, the leaders, themselves, have chosen three of their colleagues whom they consider to be foremost in the field of horticulture today. This is, indeed, an honor of which these great men, in all humility, may be justly proud.

To Liberty Hyde Bailey, William Henry Chandler and Ezra Jacob Kraus, AMERICAN FRUIT GROWER extends its hearty congratulations.

My Last Visit With Professor Blake

I SAW Professor M. A. Blake a few days before he died. He was on the program of the annual meeting of the Connecticut Pomological Society and spoke on "The Peach Situation—Suggestions for Connecticut Growers." It was a masterly address despite the fact that President Kilbourn, in introducing him, had explained that Professor Blake was not feeling well. I will always remember that message coming from one of America's distinguished horticulturists. Later I had lunch with him and Arthur C. Bobb. He ate sparingly and seemed to be in deep thought. I now realize that he had made a great sacrifice in coming to Hartford. He was carrying out a lifetime devotion to advance the cause of horticulture whenever possible and for the good of all who may profit therefrom.

Before I returned to Cleveland from that meeting of the Connecticut Pomological Society word had arrived that Professor Blake had passed on. Memory of those last days with Professor Blake will always remain. He was a man I greatly admired because he was independent in thought and action. His place in horticulture is permanent and will be difficult to fill.—*RTM*

Fruit Production at a Glance

	1936-45	1946	1947
Apples bushels	112,896,000	119,410,000	112,503,000
Peaches bushels	62,936,000	86,643,000	82,981,000
Pears bushels	29,510,000	34,447,000	35,350,000
Grapes tons	2,578,920	3,119,500	3,093,900
Plums and Prunes tons (fresh)	707,660	791,000	672,300
Cherries tons	159,157	229,620	180,830

CITRUS

	1936-45	1946-47	Dec. 1, Est. 1947-48
Oranges boxes	83,488,000	113,980,000	108,260,000
Grapefruit boxes	44,593,000	59,640,000	62,270,000

"Johnny Appleseed" Returns

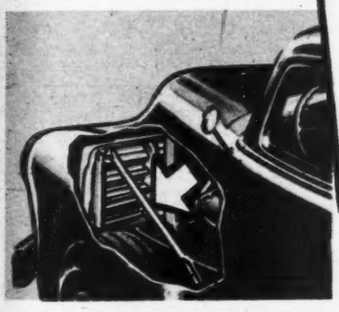
IN A FEW MONTHS "Johnny Appleseed" will appear on the screen in some 15,000 or 20,000 motion picture theatres in all parts of the United States. Millions of families will have their attention directed to a romantic episode in the history of the king of fruits which is bound to amuse, entrance and remain long in the memory of all who have the good fortune to see this picture. For this is a picture which is not only entertainment but like all Disney films proclaims a noble moral, which in this case is the energy and unselfishness of Johnny.

In a preview arranged especially for AMERICAN FRUIT GROWER, Mr. Disney ran the film which was complete except for final coloring and animation of the characters.

The advertising value of Disney's "Johnny Appleseed" is incalculable for fruit growers. Like all advertising, however, it must be merchandised and the opportunity to cash in on a remarkable break in fortune for fruit growers depends upon the growers themselves. Many ideas will occur to alert and salesminded growers and their outlets of cooperatives, packers, retailers and processors. Certainly, the children in the schools who are enthusiastic Disney fans can be organized into some kind of apple promotion which will be in harmony with the showing of the picture. In Cleveland, boys dressed in coon skin looking just like "Johnny Appleseed" recently did a good job in apple promotion. It will be interesting to watch developments but more profitable to let others watch while you cash in.

OUT AHEAD IN *New Cab Comfort*

Better Looking... Better Riding Better Built and A Better Buy



● **Above—Grilles are protected and reinforced by bars of heavy bumper stock at top and sides. They are frame-mounted and angle-braced.**

● **Center—Seats are adjustable 3⅜ inches. Thick upholstery and padding and 73 individually wrapped springs assure extra comfort and wear.**

● **Below—Cabs are ventilated by a circulating fresh air system equal to that of the finest cars. Forced air heating and defrosting are available.**

New light and medium duty GMCs lead the field with a long list of new and outstanding cab comfort features.

For roominess, there's more leg room, hip room and elbow room . . . ample space for three people. For riding comfort, there's 3-point cab mounting with rubber stabilizers . . . adjustable seat with nearly double the number of springs . . . scientific insulation and soundproofing. For visibility, there's 22% more area in windshield and windows. For ventilation, there's a revolutionary fresh air circulation system.

Add to all these comfort features the distinctively styled, rugged new front end design . . . war-proved and improved engines . . . stronger and sturdier chassis . . . and you'll appreciate why the new GMC is truly The Truck of Extra Value.

GMC TRUCK & COACH DIVISION • GENERAL MOTORS CORPORATION

THE TRUCK OF VALUE

GMC TRUCKS

GASOLINE • DIESEL

NOW—a Contest with Premiums for All!

$1,000 IN CASH PRIZES

A Stark wonder tree for everyone who enters

MAIL COUPON for Contest details and Entry Blank. Also gorgeous new DeLuxe Edition Catalog! Color photographs of Champion Fruits! 72 Pages—Over 1 lb. Long

NAME SENSATIONAL NEW PEACH

EARLIEST Ripening Freestone Peach we have seen with such luscious flavor ⅗ size

Burbank's Famous Red Flesh ELEPHANT HEART (Trade-mark) Freestone Plum ⅖ size

Fabulous New STARK GOLDEN DELICIOUS (Trade-mark) Apple ⅗ size

Latest addition to Stark-Burbank miracle fruits which have amazed fruit growers

Young Trees Bear Giant Size Fruit

Now Grafted on Double-Heavy root system... then "fattened and strengthened"

Many Begin Bearing Fruit at 3 Yrs. Old

Luther Burbank

The new fruit creations of Luther Burbank, World's Horticultural Wizard, are propagated and sold exclusively by Stark Bros.

Get Trees Propagated Direct-in-Line from Champion Parent Trees

This offers you an opportunity to try for a cash prize of up to $500, and surely get a valuable tree of one of the sensational improved wonder varieties which have revolutionized fruit growing. Enter big Prize Contest for naming remarkable new Stark Peach—the earliest ripening luscious flavored freestone peach we have ever seen.

This peach is a brand new addition to modern miracles of horticulture which bear fabulous fruit of sensational size and extra lusciousness, often at unbelievably young ages—many bear when only 3 years planted. They are supreme specimens of these wonder varieties due to the way they are cultured and selected. They have amazed orchardists by the gorgeous fruit and the extra bushels they bear.

These apples, peaches, plums, cherries, pears, apricots, and grapes are triumphs of the horticultural wizards Burbank and Stark—propagated direct-in-line from the original Champion Parents. Many are so different from any other fruits that they have been awarded U. S. Patents. Also Trade-marks so you can be sure. They are so hardy they thrive almost anywhere farm crops grow... can be grown on as little as 20 feet square of ground.

The latest United States census of agriculture shows there are only one-third as many apple trees in the U. S. orchards as in 1910 to supply health-giving fruit for 61,000,000 more mouths than there were back in 1910. In spite of the alarming fruit shortage health authorities are urging people to eat twice as much fruit.

Improved Fruit Easier to Grow

Experienced orchardists are swinging away from trees which require extra years of waiting. They simply make sure they buy from the Trade-mark and Patent owners to get improved varieties propagated direct-in-line from the original Champion Parent trees. These "Record-Bearing Strain" (Trade-mark) trees are sold only by Stark Bros.

Each Stark tree is "fattened" before it is dug—loaded with rich plant food elements from selected soils. This practically eliminates set-back from transplanting. Each tree is inspected five times by nursery experts to assure you the very cream of the crop—no runts or weaklings.

Like Doubling The Tree's Strength

Grafting is by Stark's Double-Heavy Root System Method using the entire, vigorous, undivided root system instead of just one piece of root from a yearling seedling as is often done. This costs us more, but gives the tree super-heavy roots to speed up growth and younger bearing—gives it years' head start.

Magnificent Color Photo Book FREE

Get new DeLuxe Edition of the greatest color fruit book ever published. Look at actual specimens in true-to-life size and color. Beautiful pictorial ripening chart shows seasons when various varieties of fruits ripen—shows at a glance how to plan continuous succession of ripe fruits from early to late. Color photos of living fruit make selection easy. This big Book of World's Champion Fruit Trees, Shrubs, Roses sent you FREE, while they last.

Here are Some Champions

This is America's opportunity to replace ordinary fruits with miracle fruits of Burbank and Stark. Stark Golden Delicious (Trade-mark), supreme for young and heavy-bearing! Glorious new Queen of Quality of all yellow apples—unequalled in richest, juiciest flavor. The magnificent new Starking Delicious (Trade-mark)—King of all Red Apples—red all over weeks before ripening! See the new Hal-Berta Giant (U. S. Pat.) Peach, an enormous mid-season producer. The World's largest peach; some weigh 1 lb. each! Also hundreds of other famous Stark Fruit Trees, shrubs, and roses ... all true-to-name and true-to-strain, and safe arrival guaranteed.

Check Coupon Now—Get Contest Entry Blank Two Extra Books FREE

If you reply at once, we will also send: (1) a remarkable easy-to-follow new Fruit Planting Guide, and (2) new Home Landscape Booklet of senational shrub and rose discoveries and how to use them to glorify your grounds. We send these two valuable books FREE with the big 72-page Stark Book of Champion Fruits showing new horticultural triumphs in life color. Tear out coupon now!

TEAR OUT AND MAIL COUPON NOW!

STARK

NURSERIES & ORCHARDS CO.

BOX B-08, TOWN OF LOUISIANA, MISSOURI

Largest in the World . . . Oldest in America! . . . Stark Trees Produced Coast to Coast in Best Nursery Soils

AFG 1-48

STARK Bro's Nurseries & Orchards Co. Box B-08, Louisiana, MISSOURI

- ☐ Gentlemen: Send me FREE new 1948 Stark Book of Champion Fruits and details of $1,000 Prize Content
- ☐ Check here for Free *Home Landscape Booklet and FREE Plans*
- ☐ Check here for Free *Fruit Planting Guide*
- ☐ Check here for Special *10 Tree* Proposition
- ☐ Check for Special *over 20 Tree* Proposition

Name.....

P.O. .....St. or R.F.D. .....

City.....State.....

☐ Check here if interested in liberal Weekly Cash Income Plan for Spare-time Selling Stark price trees.

Al. Hellrung

"I sold $1562.00 worth of trees in one month spare time"... says Al. Hellrung

A great opportunity is now open for men and women to make real money in spare time. Thousands are planting home orchards as urged by U. S. Government. Sell amazing new fruits of Stark Bro's, America's biggest and oldest nursery. Al. Hellrung, Illinois, made unusual spare-time sales of $1,562.00 in one month. All over the country Stark representatives are making nice extra income selling exclusive Stark U. S. Patented Fruit Trees, propagated direct-in-line with double-heavy, "head-start" root systems. 132 years in business, 77 years of advertising, plus thousands of satisfied customers have made Stark trees, shrubs and roses preferred the country over. Check coupon to get liberal weekly income plan. Tear out! Mail today!